#4

<110> Casman, Stacie J
Edinger, Shlomit R
Ellerman, Karen
Smithson, Glennda
Kekuda, Ramesh
Padigaru, Muralidhara

<120> Novel GPCR-Like Proteins and Nucleic Acids Encoding Same

<130> 21402-233

<140> 10/041,615
<141> 2002-01-03

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tct cag gaa ctc cag acc ttc cta ttt atg ttg ttt ttt gta ttc tat   100
Ser Gln Glu Leu Gln Thr Phe Leu Phe Met Leu Phe Phe Val Phe Tyr
         15                  20                  25

gga gga atc gtg ttt gga aac ctt ctt att gtc ata aca gtg gta tct   148
Gly Gly Ile Val Phe Gly Asn Leu Leu Ile Val Ile Thr Val Val Ser
     30                  35                  40

gac tcc cac ctt cac tct ccc atg tac ttc ctg cta gcc aac ctc tca   196
Asp Ser His Leu His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser
 45                  50                  55                  60

ctc att gat ctg tct ctg tct tca gtc aca gcc ccc aag atg att act   244
Leu Ile Asp Leu Ser Leu Ser Ser Val Thr Ala Pro Lys Met Ile Thr
                 65                  70                  75
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gac ttt ttc agc cag cgc aaa gtc atc tct ttc aag ggc tgc ctt gtt   292
Asp Phe Phe Ser Gln Arg Lys Val Ile Ser Phe Lys Gly Cys Leu Val
             80                  85                  90

cag ata ttt ctc ctt cac ttc ttt ggt ggg agt gag atg gtg atc ctc   340
Gln Ile Phe Leu Leu His Phe Phe Gly Gly Ser Glu Met Val Ile Leu
         95                 100                 105

ata gcc atg ggc ttt gac aga tat ata gca ata tgc aag ccc cta cac   388
Ile Ala Met Gly Phe Asp Arg Tyr Ile Ala Ile Cys Lys Pro Leu His
    110                 115                 120

tac act aca att atg tgt ggc aac gca tgt gtc ggc att atg gct gtc   436
Tyr Thr Thr Ile Met Cys Gly Asn Ala Cys Val Gly Ile Met Ala Val
125                 130                 135                 140

aca tgg gga att ggc ttt ctc cat tcg gtg agc cag ttg gcg ttt gcc   484
Thr Trp Gly Ile Gly Phe Leu His Ser Val Ser Gln Leu Ala Phe Ala
                145                 150                 155

gtg cac tta ctc ttc tgt ggt ccc aat gag gtc gat agt ttt tat tgt   532
Val His Leu Leu Phe Cys Gly Pro Asn Glu Val Asp Ser Phe Tyr Cys
            160                 165                 170

gac ctt cct agg gta atc aaa ctt gcc tgt aca gat acc tac agg cta   580
Asp Leu Pro Arg Val Ile Lys Leu Ala Cys Thr Asp Thr Tyr Arg Leu
        175                 180                 185

gat att atg gtc att gct aac agt ggt gtg ctc act gtg tgt tct ttt   628
Asp Ile Met Val Ile Ala Asn Ser Gly Val Leu Thr Val Cys Ser Phe
    190                 195                 200

gtt ctt cta atc atc tca tac act atc atc cta atg acc atc cag cat   676
Val Leu Leu Ile Ile Ser Tyr Thr Ile Ile Leu Met Thr Ile Gln His
205                 210                 215                 220

cgc cct tta gat aag tcg tcc aaa gct ctg tcc act ttg act gct cac   724
Arg Pro Leu Asp Lys Ser Ser Lys Ala Leu Ser Thr Leu Thr Ala His
                225                 230                 235

att aca gta gtt ctt ttg ttc ttt gga cca tgt gtc ttt att tat gcc   772
Ile Thr Val Val Leu Leu Phe Phe Gly Pro Cys Val Phe Ile Tyr Ala
            240                 245                 250

tgg cca ttc ccc atc aag tca tta gat aaa ttc ctt gct gta ttt tat   820
Trp Pro Phe Pro Ile Lys Ser Leu Asp Lys Phe Leu Ala Val Phe Tyr
        255                 260                 265

tct gtg atc acc cct ctc ttg aac cca att ata tac aca ctg agg aac   868
Ser Val Ile Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn
    270                 275                 280

aaa gac atg aag acg gca ata aga cag ctg aga aaa tgg gat gca cat   916
Lys Asp Met Lys Thr Ala Ile Arg Gln Leu Arg Lys Trp Asp Ala His
285                 290                 295                 300
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Gln Thr Phe Leu Phe Met Leu Phe Phe Val Phe Tyr Gly Gly Ile Val
             20                  25                  30

Phe Gly Asn Leu Leu Ile Val Ile Thr Val Val Ser Asp Ser His Leu
         35                  40                  45

His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser Leu Ile Asp Leu
     50                  55                  60

Ser Leu Ser Ser Val Thr Ala Pro Lys Met Ile Thr Asp Phe Phe Ser
 65                  70                  75                  80

Gln Arg Lys Val Ile Ser Phe Lys Gly Cys Leu Val Gln Ile Phe Leu
                 85                  90                  95

Leu His Phe Phe Gly Gly Ser Glu Met Val Ile Leu Ile Ala Met Gly
            100                 105                 110

Phe Asp Arg Tyr Ile Ala Ile Cys Lys Pro Leu His Tyr Thr Thr Ile
        115                 120                 125

Met Cys Gly Asn Ala Cys Val Gly Ile Met Ala Val Thr Trp Gly Ile
    130                 135                 140

Gly Phe Leu His Ser Val Ser Gln Leu Ala Phe Ala Val His Leu Leu
145                 150                 155                 160

Phe Cys Gly Pro Asn Glu Val Asp Ser Phe Tyr Cys Asp Leu Pro Arg
                165                 170                 175

Val Ile Lys Leu Ala Cys Thr Asp Thr Tyr Arg Leu Asp Ile Met Val
            180                 185                 190

Ile Ala Asn Ser Gly Val Leu Thr Val Cys Ser Phe Val Leu Leu Ile
        195                 200                 205

Ile Ser Tyr Thr Ile Ile Leu Met Thr Ile Gln His Arg Pro Leu Asp
    210                 215                 220

Lys Ser Ser Lys Ala Leu Ser Thr Leu Thr Ala His Ile Thr Val Val
225                 230                 235                 240

Leu Leu Phe Phe Gly Pro Cys Val Phe Ile Tyr Ala Trp Pro Phe Pro
                245                 250                 255
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Ile Lys Ser Leu Asp Lys Phe Leu Ala Val Phe Tyr Ser Val Ile Thr
            260                 265                 270

Pro Leu Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys
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Thr Ala Ile Arg Gln Leu Arg Lys Trp Asp Ala His Ser Ser Val Lys
    290                 295                 300

Phe
305

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<213> Homo sapiens

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      1               5                  10                  15

tct cag gat cct ggt atg caa aaa gaa tta ttt gtc atg ttt tta ttc    96
Ser Gln Asp Pro Gly Met Gln Lys Glu Leu Phe Val Met Phe Leu Phe
                 20                  25                  30

aca tac gtt gtg act gtg ttg ggg aac cag ctc att gtg gtg act atc   144
Thr Tyr Val Val Thr Val Leu Gly Asn Gln Leu Ile Val Val Thr Ile
             35                  40                  45

att gcc agc cct tcc ttg ggc tcc cca atg tac ttc ttc ctt gcc tgc   192
Ile Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys
         50                  55                  60

ctg tca ttt ata gat gct gca tat ttc act gtc att tct ccc aaa ttg   240
Leu Ser Phe Ile Asp Ala Ala Tyr Phe Thr Val Ile Ser Pro Lys Leu
     65                  70                  75

att gtg gac tta ctc tgt gat aaa aag act att tcc ttc caa acg ttc   288
Ile Val Asp Leu Leu Cys Asp Lys Lys Thr Ile Ser Phe Gln Thr Phe
 80                  85                  90                  95

atg ggc caa cta ttt ata gac cac ttc ttt ggt ggt gca gag gcc ttc   336
Met Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Ala Phe
                100                 105                 110

ctt ctg gtg gtg atg gcc tat gat cgc tat gtt gcc atc tgt aag aca   384
Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Thr
            115                 120                 125

ttg cac tat ttg acc atc atg act cga cag gtt tgt atc ctt gca ttg   432
Leu His Tyr Leu Thr Ile Met Thr Arg Gln Val Cys Ile Leu Ala Leu
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        130                 135                 140

ctg gtg gct gcg aca ggc ggt ttt gtg cat tct gtg ttt caa att gtt   480
Leu Val Ala Ala Thr Gly Gly Phe Val His Ser Val Phe Gln Ile Val
    145                 150                 155

gtt gtg tac agt ctc cct ttc tgt ggc gcc aat gtc att gat cat ttc   528
Val Val Tyr Ser Leu Pro Phe Cys Gly Ala Asn Val Ile Asp His Phe
160                 165                 170                 175

agt tgt gac atg tat cca tta ttg gaa ctg gca tgt act gac acc tac   576
Ser Cys Asp Met Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr
                180                 185                 190

ttt ata ggc ctc act gtt gtt ttc agt ggt gga gca ctc tgt atg gtc   624
Phe Ile Gly Leu Thr Val Val Phe Ser Gly Gly Ala Leu Cys Met Val
            195                 200                 205

atc ttc acc ctt cta ata att tcc tat agg gtc atc cta aac tcc ctt   672
Ile Phe Thr Leu Leu Ile Ile Ser Tyr Arg Val Ile Leu Asn Ser Leu
        210                 215                 220

aaa act tac act cag gaa ggg agg cat aaa gcc ctg tct acc tgc agc   720
Lys Thr Tyr Thr Gln Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ser
    225                 230                 235

tcc cac atc act gtg att gtt ctc ttt tta ttc cct gta ttt tca tat   768
Ser His Ile Thr Val Ile Val Leu Phe Leu Phe Pro Val Phe Ser Tyr
240                 245                 250                 255

gtg aga cct gtt tca aac ttt tct att gac aca ttc atg act gtc ttt   816
Val Arg Pro Val Ser Asn Phe Ser Ile Asp Thr Phe Met Thr Val Phe
                260                 265                 270

tat aca gtt atc aca ccc aag ttg aat cct tta ata tac act ttc aga   864
Tyr Thr Val Ile Thr Pro Lys Leu Asn Pro Leu Ile Tyr Thr Phe Arg
            275                 280                 285

aat tca gag atg aga aat gtt ata gaa aaa ctc ttg gtg aaa aag gta   912
Asn Ser Glu Met Arg Asn Val Ile Glu Lys Leu Leu Val Lys Lys Val
        290                 295                 300

act ata ttt aga ata aca ggg tcc atc ctc atg tag                  948
Thr Ile Phe Arg Ile Thr Gly Ser Ile Leu Met
    305                 310
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<213> Homo sapiens

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             20                  25                  30
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Tyr Val Val Thr Val Leu Gly Asn Gln Leu Ile Val Val Thr Ile Ile
         35                  40                  45

Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu
     50                  55                  60

Ser Phe Ile Asp Ala Ala Tyr Phe Thr Val Ile Ser Pro Lys Leu Ile
 65                  70                  75                  80

Val Asp Leu Leu Cys Asp Lys Lys Thr Ile Ser Phe Gln Thr Phe Met
                 85                  90                  95

Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Ala Phe Leu
            100                 105                 110

Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Thr Leu
        115                 120                 125

His Tyr Leu Thr Ile Met Thr Arg Gln Val Cys Ile Leu Ala Leu Leu
    130                 135                 140

Val Ala Ala Thr Gly Gly Phe Val His Ser Val Phe Gln Ile Val Val
145                 150                 155                 160

Val Tyr Ser Leu Pro Phe Cys Gly Ala Asn Val Ile Asp His Phe Ser
                165                 170                 175

Cys Asp Met Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe
            180                 185                 190

Ile Gly Leu Thr Val Val Phe Ser Gly Gly Ala Leu Cys Met Val Ile
        195                 200                 205

Phe Thr Leu Leu Ile Ile Ser Tyr Arg Val Ile Leu Asn Ser Leu Lys
    210                 215                 220

Thr Tyr Thr Gln Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser
225                 230                 235                 240

His Ile Thr Val Ile Val Leu Phe Leu Phe Pro Val Phe Ser Tyr Val
                245                 250                 255

Arg Pro Val Ser Asn Phe Ser Ile Asp Thr Phe Met Thr Val Phe Tyr
            260                 265                 270

Thr Val Ile Thr Pro Lys Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn
        275                 280                 285

Ser Glu Met Arg Asn Val Ile Glu Lys Leu Leu Val Lys Lys Val Thr
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Ile Phe Arg Ile Thr Gly Ser Ile Leu Met
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      1               5                  10                  15

tca cag gat cct gat atg caa aac aca tta ttt gtc atg ttt tta ctc    96
Ser Gln Asp Pro Asp Met Gln Asn Thr Leu Phe Val Met Phe Leu Leu
                 20                  25                  30

aca tac att gtg aca gtg gtg ggg aac cta ctc gtt gcg gtg act att   144
Thr Tyr Ile Val Thr Val Val Gly Asn Leu Leu Val Ala Val Thr Ile
             35                  40                  45

att gtc agc cct tcc ttg agc tcc cca atg tat ttc ttc ctt gct tgc   192
Ile Val Ser Pro Ser Leu Ser Ser Pro Met Tyr Phe Phe Leu Ala Cys
         50                  55                  60

ctg tca tta ata gat gct gta tta tcc acc acc att tct ccc ata ttg   240
Leu Ser Leu Ile Asp Ala Val Leu Ser Thr Thr Ile Ser Pro Ile Leu
     65                  70                  75

att gta gac cta ctc tgt gac aaa aag act att tcc ttc cca gct tgc   288
Ile Val Asp Leu Leu Cys Asp Lys Lys Thr Ile Ser Phe Pro Ala Cys
 80                  85                  90                  95

atg ggc cag cta ttt aca gac cac ttg ttt ggt gga act gag atc ttc   336
Met Gly Gln Leu Phe Thr Asp His Leu Phe Gly Gly Thr Glu Ile Phe
                100                 105                 110

ctt ctg gtg gtg atg gcc tat gat cgc tac gtg gcc atc tgt aag cca   384
Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro
            115                 120                 125

ctg cac tat tta acc atc atg aat cga cag gtt tcc atc ctt ctg ttg   432
Leu His Tyr Leu Thr Ile Met Asn Arg Gln Val Ser Ile Leu Leu Leu
        130                 135                 140

gtg gtg gcc atg act gga ggt ttc ctt cat tct gtg ttt caa att gct   480
Val Val Ala Met Thr Gly Gly Phe Leu His Ser Val Phe Gln Ile Ala
    145                 150                 155

gtt ctg tac agt ctc cct ttc tgt ggc ccc aat gtc att gac cac ttt   528
Val Leu Tyr Ser Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe
160                 165                 170                 175

ttc tgt gac atg tac cca tta ttg gaa ctg gcg tgc act gac acc tac   576
Phe Cys Asp Met Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr
                180                 185                 190

tct ata ggc ctc act gta gtt ttc agt ggt gga gca atg tgt atg gtc   624
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Ser Ile Gly Leu Thr Val Val Phe Ser Gly Gly Ala Met Cys Met Val
            195                 200                 205

atc ttc gcc ctt cta cta atc tcc tat gga gtc agc cta aac tcc ctt   672
Ile Phe Ala Leu Leu Leu Ile Ser Tyr Gly Val Ser Leu Asn Ser Leu
        210                 215                 220

aaa act tat agt cag gaa ggg agg cgt aaa gcc ctg tct acc tgc agc   720
Lys Thr Tyr Ser Gln Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Ser
    225                 230                 235

tcg cac atc acc gtg gtt gtc ctc ttt ttt gtt ccc tgt att ttc atg   768
Ser His Ile Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Met
240                 245                 250                 255

tat gtt aga cct gtc tca aac ttc cct att gat aaa ttc gtt act gtg   816
Tyr Val Arg Pro Val Ser Asn Phe Pro Ile Asp Lys Phe Val Thr Val
                260                 265                 270

ttt tat aca ttt atc aca ccc atg ctg aat cct ttt tta tac acg ttg   864
Phe Tyr Thr Phe Ile Thr Pro Met Leu Asn Pro Phe Leu Tyr Thr Leu
            275                 280                 285

aga aat tca gag atg ata aat gct ata aaa cac ctg ttg tgt aag aag   912
Arg Asn Ser Glu Met Ile Asn Ala Ile Lys His Leu Leu Cys Lys Lys
        290                 295                 300

cta act ata gtt aga ata aga gtg tcc ctc ctc atg tagataagga t      959
Leu Thr Ile Val Arg Ile Arg Val Ser Leu Leu Met
    305                 310                 315

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Gln Asp Pro Asp Met Gln Asn Thr Leu Phe Val Met Phe Leu Leu Thr
             20                  25                  30

Tyr Ile Val Thr Val Val Gly Asn Leu Leu Val Ala Val Thr Ile Ile
         35                  40                  45

Val Ser Pro Ser Leu Ser Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu
     50                  55                  60

Ser Leu Ile Asp Ala Val Leu Ser Thr Thr Ile Ser Pro Ile Leu Ile
 65                  70                  75                  80

Val Asp Leu Leu Cys Asp Lys Lys Thr Ile Ser Phe Pro Ala Cys Met
                 85                  90                  95

Gly Gln Leu Phe Thr Asp His Leu Phe Gly Gly Thr Glu Ile Phe Leu
            100                 105                 110
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Leu Val Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
        115                 120                 125

His Tyr Leu Thr Ile Met Asn Arg Gln Val Ser Ile Leu Leu Leu Val
    130                 135                 140

Val Ala Met Thr Gly Gly Phe Leu His Ser Val Phe Gln Ile Ala Val
145                 150                 155                 160

Leu Tyr Ser Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe
                165                 170                 175

Cys Asp Met Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Ser
            180                 185                 190

Ile Gly Leu Thr Val Val Phe Ser Gly Gly Ala Met Cys Met Val Ile
        195                 200                 205

Phe Ala Leu Leu Leu Ile Ser Tyr Gly Val Ser Leu Asn Ser Leu Lys
    210                 215                 220

Thr Tyr Ser Gln Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Ser Ser
225                 230                 235                 240

His Ile Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Met Tyr
                245                 250                 255

Val Arg Pro Val Ser Asn Phe Pro Ile Asp Lys Phe Val Thr Val Phe
            260                 265                 270

Tyr Thr Phe Ile Thr Pro Met Leu Asn Pro Phe Leu Tyr Thr Leu Arg
        275                 280                 285

Asn Ser Glu Met Ile Asn Ala Ile Lys His Leu Leu Cys Lys Lys Leu
    290                 295                 300

Thr Ile Val Arg Ile Arg Val Ser Leu Leu Met
305                 310                 315
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         1               5                  10

ttc cca ggc atg gag aag gca cat cac tgg ata ttc atc cca tta ttg     96
Phe Pro Gly Met Glu Lys Ala His His Trp Ile Phe Ile Pro Leu Leu
 15                  20                  25                  30
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```
gca gcc tac atc tcc ata ctt ctt ggc agt ggc act ctt ctc ttt ctc   144
Ala Ala Tyr Ile Ser Ile Leu Leu Gly Ser Gly Thr Leu Leu Phe Leu
                 35                  40                  45

atc agg aat gat cat aac ctc cat gag ccc atg tac tat ttc tta gct   192
Ile Arg Asn Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala
             50                  55                  60

atg ttg gca gct aca gac ctc gga gtg aca ttg acc aca atg ccc aca   240
Met Leu Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro Thr
         65                  70                  75

gtg cta ggt gtt ctg tgg tta gat cac agg gag act ggc cat gga gcc   288
Val Leu Gly Val Leu Trp Leu Asp His Arg Glu Thr Gly His Gly Ala
     80                  85                  90

tgc ttc tct cag gcc tat ttt atc cat act ctt tct gtc atg gag tca   336
Cys Phe Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Val Met Glu Ser
 95                 100                 105                 110

ggt gtc ttg ctt gcc atg gct tat gac tgt ttc att gcc atc cac aac   384
Gly Val Leu Leu Ala Met Ala Tyr Asp Cys Phe Ile Ala Ile His Asn
                115                 120                 125

ccc tta aga tat atc tct atc ctg acc aac acc cag gta atg aag att   432
Pro Leu Arg Tyr Ile Ser Ile Leu Thr Asn Thr Gln Val Met Lys Ile
            130                 135                 140

ggt gtg ggg gta ttg aca agg gct ggt ctg tcc att atg cca ata gtt   480
Gly Val Gly Val Leu Thr Arg Ala Gly Leu Ser Ile Met Pro Ile Val
        145                 150                 155

gtt cgc cta cac tgg ttt ccc tac tgt cga gcc cat gta ttc tcc cat   528
Val Arg Leu His Trp Phe Pro Tyr Cys Arg Ala His Val Phe Ser His
    160                 165                 170

gct ttc tgt cta cac caa gat gtc atc aag cta gcc tgt gct gac atc   576
Ala Phe Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Ile
175                 180                 185                 190

acc ctc aac cgt ctc tat cca gtt gtg gtt tta ttt gca atg gtc ttg   624
Thr Leu Asn Arg Leu Tyr Pro Val Val Val Leu Phe Ala Met Val Leu
                195                 200                 205

ttg gac ttt ctc atc atc ttt ttc tcc tac att ttg att ctc aag act   672
Leu Asp Phe Leu Ile Ile Phe Phe Ser Tyr Ile Leu Ile Leu Lys Thr
            210                 215                 220

gtc atg ggc att ggt tct gga gga gaa agg gcc aag gcc ctc aac aca   720
Val Met Gly Ile Gly Ser Gly Gly Glu Arg Ala Lys Ala Leu Asn Thr
        225                 230                 235

tgt gtc tct cat atc tgc tgc atc ctg gtc ttc tat gtc act gta gtt   768
Cys Val Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val Val
    240                 245                 250
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```
tgt ctg aca ttt att cat agg ttt gga aag cat gtt cct cat gtc gtt   816
Cys Leu Thr Phe Ile His Arg Phe Gly Lys His Val Pro His Val Val
255                 260                 265                 270

cac atc aca atg aga tac atc cac ttc ctt ttc cca cct ttt atg aac   864
His Ile Thr Met Arg Tyr Ile His Phe Leu Phe Pro Pro Phe Met Asn
                275                 280                 285

cca ttt atc tat agc att aaa act aag cag att cag agt ggc ata ctt   912
Pro Phe Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Ile Leu
            290                 295                 300

cgc tta ttc tct ctg cct cac tct aga gca tgacatt                   949
Arg Leu Phe Ser Leu Pro His Ser Arg Ala
        305                 310
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<210> 8
<211> 312
<212> PRT
<213> Homo sapiens

<400> 8

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Met Gly Leu Asn Thr Ser Ala Ser Thr Phe Gln Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Met Glu Lys Ala His His Trp Ile Phe Ile Pro Leu Leu Ala Ala
             20                  25                  30

Tyr Ile Ser Ile Leu Leu Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg
         35                  40                  45

Asn Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu
     50                  55                  60

Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

Gly Val Leu Trp Leu Asp His Arg Glu Thr Gly His Gly Ala Cys Phe
                85                  90                  95

Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Val Met Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Cys Phe Ile Ala Ile His Asn Pro Leu
        115                 120                 125

Arg Tyr Ile Ser Ile Leu Thr Asn Thr Gln Val Met Lys Ile Gly Val
    130                 135                 140

Gly Val Leu Thr Arg Ala Gly Leu Ser Ile Met Pro Ile Val Val Arg
145                 150                 155                 160

Leu His Trp Phe Pro Tyr Cys Arg Ala His Val Phe Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu
            180                 185                 190
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```
Asn Arg Leu Tyr Pro Val Val Val Leu Phe Ala Met Val Leu Leu Asp
        195                 200                 205

Phe Leu Ile Ile Phe Phe Ser Tyr Ile Leu Ile Leu Lys Thr Val Met
    210                 215                 220

Gly Ile Gly Ser Gly Gly Glu Arg Ala Lys Ala Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val Val Cys Leu
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys His Val Pro His Val Val His Ile
            260                 265                 270

Thr Met Arg Tyr Ile His Phe Leu Phe Pro Pro Phe Met Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Ile Leu Arg Leu
    290                 295                 300

Phe Ser Leu Pro His Ser Arg Ala
305                 310
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<210> 9
<211> 928
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(921)

<400> 9

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tct gct tcc acc ttc cag ctt act ggc ttc cca ggc atg gag aag gca    48
Ser Ala Ser Thr Phe Gln Leu Thr Gly Phe Pro Gly Met Glu Lys Ala
  1               5                  10                  15

cat cac tgg ata ttc atc cca tta ttg gca gcc tac atc tcc ata ctt    96
His His Trp Ile Phe Ile Pro Leu Leu Ala Ala Tyr Ile Ser Ile Leu
             20                  25                  30

ctt ggc agt ggc act ctt ctc ttt ctc atc agg aat gat cat aac ctc   144
Leu Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg Asn Asp His Asn Leu
         35                  40                  45

cat gag ccc atg tac tat ttc tta gct atg ttg gca gct aca gac ctc   192
His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu Ala Ala Thr Asp Leu
     50                  55                  60

gga gtg aca ttg acc aca atg ccc aca gtg cta ggt gtt ctg tgg tta   240
Gly Val Thr Leu Thr Thr Met Pro Thr Val Leu Gly Val Leu Trp Leu
 65                  70                  75                  80

gat cac agg gag act ggc cat gga gcc tgc ttc tct cag gcc tat ttt   288
Asp His Arg Glu Thr Gly His Gly Ala Cys Phe Ser Gln Ala Tyr Phe
```

```
                85                  90                  95

atc cat act ctt tct gtc atg gag tca ggt gtc ttg ctt gcc atg gct   336
Ile His Thr Leu Ser Val Met Glu Ser Gly Val Leu Leu Ala Met Ala
            100                 105                 110

tat gac tgt ttc att gcc atc cac aac ccc tta aga tat atc tct atc   384
Tyr Asp Cys Phe Ile Ala Ile His Asn Pro Leu Arg Tyr Ile Ser Ile
        115                 120                 125

ctg acc aac acc cag gta atg aag att ggt gtg ggg gta ttg aca agg   432
Leu Thr Asn Thr Gln Val Met Lys Ile Gly Val Gly Val Leu Thr Arg
    130                 135                 140

gct ggt ctg tcc att atg cca ata gtt gtt cgc cta cac tgg ttt ccc   480
Ala Gly Leu Ser Ile Met Pro Ile Val Val Arg Leu His Trp Phe Pro
145                 150                 155                 160

tac tgt cga gcc cat gta ttc tcc cat gct ttc tgt cta cac caa gat   528
Tyr Cys Arg Ala His Val Phe Ser His Ala Phe Cys Leu His Gln Asp
                165                 170                 175

gtc atc aag cta gcc tgt gct gac atc acc ctc aac cgt ctc tat cca   576
Val Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu Asn Arg Leu Tyr Pro
            180                 185                 190

gtt gtg gtt tta ttt gca atg gtc ttg ttg gac ttt ctc atc atc ttt   624
Val Val Val Leu Phe Ala Met Val Leu Leu Asp Phe Leu Ile Ile Phe
        195                 200                 205

ttc tcc tac att ttg att ctc aag act gtc atg ggc att ggt tct gga   672
Phe Ser Tyr Ile Leu Ile Leu Lys Thr Val Met Gly Ile Gly Ser Gly
    210                 215                 220

gga gaa agg gcc aag gcc ctc aac aca tgt gtc tct cat atc tgc tgc   720
Gly Glu Arg Ala Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Cys
225                 230                 235                 240

atc ctg gtc ttc tat gtc act gta gct tgt ctg aca ttt att cat agg   768
Ile Leu Val Phe Tyr Val Thr Val Ala Cys Leu Thr Phe Ile His Arg
                245                 250                 255

ttt gga aag cat gtt cct cat gtc gtt cac atc aca atg aga tac atc   816
Phe Gly Lys His Val Pro His Val Val His Ile Thr Met Arg Tyr Ile
            260                 265                 270

cac ttc ctt ttc cca cct ttt atg aac cca ttt atc tat agc att aaa   864
His Phe Leu Phe Pro Pro Phe Met Asn Pro Phe Ile Tyr Ser Ile Lys
        275                 280                 285

act aag cag att cag agt ggc ata ctt cgc tta ttc tct ctg cct cac   912
Thr Lys Gln Ile Gln Ser Gly Ile Leu Arg Leu Phe Ser Leu Pro His
    290                 295                 300

tct aga gca tgacatt                                               928
Ser Arg Ala
305
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<210> 10
<211> 307
<212> PRT
<213> Homo sapiens

<400> 10
Ser Ala Ser Thr Phe Gln Leu Thr Gly Phe Pro Gly Met Glu Lys Ala
1 5 10 15

His His Trp Ile Phe Ile Pro Leu Leu Ala Ala Tyr Ile Ser Ile Leu
20 25 30

Leu Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg Asn Asp His Asn Leu
35 40 45

His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu Ala Ala Thr Asp Leu
50 55 60

Gly Val Thr Leu Thr Thr Met Pro Thr Val Leu Gly Val Leu Trp Leu
65 70 75 80

Asp His Arg Glu Thr Gly His Gly Ala Cys Phe Ser Gln Ala Tyr Phe
85 90 95

Ile His Thr Leu Ser Val Met Glu Ser Gly Val Leu Leu Ala Met Ala
100 105 110

Tyr Asp Cys Phe Ile Ala Ile His Asn Pro Leu Arg Tyr Ile Ser Ile
115 120 125

Leu Thr Asn Thr Gln Val Met Lys Ile Gly Val Gly Val Leu Thr Arg
130 135 140

Ala Gly Leu Ser Ile Met Pro Ile Val Val Arg Leu His Trp Phe Pro
145 150 155 160

Tyr Cys Arg Ala His Val Phe Ser His Ala Phe Cys Leu His Gln Asp
165 170 175

Val Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu Asn Arg Leu Tyr Pro
180 185 190

Val Val Val Leu Phe Ala Met Val Leu Leu Asp Phe Leu Ile Ile Phe
195 200 205

Phe Ser Tyr Ile Leu Ile Leu Lys Thr Val Met Gly Ile Gly Ser Gly
210 215 220

Gly Glu Arg Ala Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Cys
225 230 235 240

Ile Leu Val Phe Tyr Val Thr Val Ala Cys Leu Thr Phe Ile His Arg
245 250 255

Phe Gly Lys His Val Pro His Val Val His Ile Thr Met Arg Tyr Ile
260 265 270

```
His Phe Leu Phe Pro Pro Phe Met Asn Pro Phe Ile Tyr Ser Ile Lys
        275                 280                 285

Thr Lys Gln Ile Gln Ser Gly Ile Leu Arg Leu Phe Ser Leu Pro His
    290                 295                 300

Ser Arg Ala
305
```

<210> 11
<211> 955
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (2)..(937)

<400> 11

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g atg tcg tcc agc agc agc tcc cat ccc ttc cta ttg act ggt ttt cca  49
  Met Ser Ser Ser Ser Ser Ser His Pro Phe Leu Leu Thr Gly Phe Pro
    1               5                  10                  15

ggc ttg gag gaa gct cat cac tgg att tcc gta ttt ttc ttg ttc atg    97
Gly Leu Glu Glu Ala His His Trp Ile Ser Val Phe Phe Leu Phe Met
             20                  25                  30

tat ata tcc atc ctt ttt ggc aat ggc acc ctc ctt ctt ctc att aag   145
Tyr Ile Ser Ile Leu Phe Gly Asn Gly Thr Leu Leu Leu Leu Ile Lys
         35                  40                  45

gaa gat cac aat ctt cat gag ccc atg tac ttc ttt ctg gcc atg ctg   193
Glu Asp His Asn Leu His Glu Pro Met Tyr Phe Phe Leu Ala Met Leu
     50                  55                  60

gct gcc aca gac ctg ggg ctg gcc ctg acc aca atg ccc acg gtg ctg   241
Ala Ala Thr Asp Leu Gly Leu Ala Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

gga gtc ctc tgg ctg gat cac agg gag att gga agt gcg gcc tgc ttt   289
Gly Val Leu Trp Leu Asp His Arg Glu Ile Gly Ser Ala Ala Cys Phe
                 85                  90                  95

tcc cag gcc tac ttt ata cac tca ctt tcc ttt ctc gag tct ggc att   337
Ser Gln Ala Tyr Phe Ile His Ser Leu Ser Phe Leu Glu Ser Gly Ile
            100                 105                 110

ctg ctt gcc atg gcc tat gac cgt ttt att gcc atc tgc aac cct ctt   385
Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Asn Pro Leu
        115                 120                 125

aga tat acc tct gta ctt act aat act cga gta gtg aag att ggg ctg   433
Arg Tyr Thr Ser Val Leu Thr Asn Thr Arg Val Val Lys Ile Gly Leu
    130                 135                 140

gga gtt ctg atg agg gga ttt gta tcc gtt gtt ccc cca atc agg ccc   481
```

```
Gly Val Leu Met Arg Gly Phe Val Ser Val Val Pro Pro Ile Arg Pro
145                 150                 155                 160

ctc tat ttt ttt ctg tat tgt cac tcc cat gtt ctt tca cat gca ttc   529
Leu Tyr Phe Phe Leu Tyr Cys His Ser His Val Leu Ser His Ala Phe
                165                 170                 175

tgc ctt cac cag gat gtc att aaa ctc gcc tgt gct gat acc acc ttc   577
Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Thr Thr Phe
            180                 185                 190

aac cga ctg tac cca gct gtg ctt gta gtc ttt ata ttt gtg ctg gat   625
Asn Arg Leu Tyr Pro Ala Val Leu Val Val Phe Ile Phe Val Leu Asp
        195                 200                 205

tat ctg att atc ttc atc tcc tat gtg ttg ata ctc aag act gtc ctg   673
Tyr Leu Ile Ile Phe Ile Ser Tyr Val Leu Ile Leu Lys Thr Val Leu
    210                 215                 220

agc att gcc tcc aga gag gag agg gcc aag gct ctc att acc tgt gtc   721
Ser Ile Ala Ser Arg Glu Glu Arg Ala Lys Ala Leu Ile Thr Cys Val
225                 230                 235                 240

tcc cat atc tgc tgt gtc ctg gtt ttt tat gtc aca gtg att gga ttg   769
Ser His Ile Cys Cys Val Leu Val Phe Tyr Val Thr Val Ile Gly Leu
                245                 250                 255

tct ctg att cat cgt ttt gga aag cag gtt cca cat att gtt cac ctc   817
Ser Leu Ile His Arg Phe Gly Lys Gln Val Pro His Ile Val His Leu
            260                 265                 270

att atg agc tat gcc tat ttt ctg ttc cct cca cta atg aat cct ata   865
Ile Met Ser Tyr Ala Tyr Phe Leu Phe Pro Pro Leu Met Asn Pro Ile
        275                 280                 285

aca tat agt gtc aag acc aag cag att cag aat gcc att ctt cac ctt   913
Thr Tyr Ser Val Lys Thr Lys Gln Ile Gln Asn Ala Ile Leu His Leu
    290                 295                 300

ttt act acc cat aga att gga acc tgatctccaa tcatcaca               955
Phe Thr Thr His Arg Ile Gly Thr
305                 310
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<210> 12
<211> 312
<212> PRT
<213> Homo sapiens

<400> 12

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Met Ser Ser Ser Ser Ser Ser His Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Glu Ala His His Trp Ile Ser Val Phe Phe Leu Phe Met
             20                  25                  30

Tyr Ile Ser Ile Leu Phe Gly Asn Gly Thr Leu Leu Leu Leu Ile Lys
         35                  40                  45
```

```
Glu Asp His Asn Leu His Glu Pro Met Tyr Phe Phe Leu Ala Met Leu
     50                  55                  60

Ala Ala Thr Asp Leu Gly Leu Ala Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

Gly Val Leu Trp Leu Asp His Arg Glu Ile Gly Ser Ala Ala Cys Phe
                 85                  90                  95

Ser Gln Ala Tyr Phe Ile His Ser Leu Ser Phe Leu Glu Ser Gly Ile
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Asn Pro Leu
        115                 120                 125

Arg Tyr Thr Ser Val Leu Thr Asn Thr Arg Val Val Lys Ile Gly Leu
    130                 135                 140

Gly Val Leu Met Arg Gly Phe Val Ser Val Val Pro Pro Ile Arg Pro
145                 150                 155                 160

Leu Tyr Phe Phe Leu Tyr Cys His Ser His Val Leu Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Thr Thr Phe
            180                 185                 190

Asn Arg Leu Tyr Pro Ala Val Leu Val Val Phe Ile Phe Val Leu Asp
        195                 200                 205

Tyr Leu Ile Ile Phe Ile Ser Tyr Val Leu Ile Leu Lys Thr Val Leu
    210                 215                 220

Ser Ile Ala Ser Arg Glu Glu Arg Ala Lys Ala Leu Ile Thr Cys Val
225                 230                 235                 240

Ser His Ile Cys Cys Val Leu Val Phe Tyr Val Thr Val Ile Gly Leu
                245                 250                 255

Ser Leu Ile His Arg Phe Gly Lys Gln Val Pro His Ile Val His Leu
            260                 265                 270

Ile Met Ser Tyr Ala Tyr Phe Leu Phe Pro Pro Leu Met Asn Pro Ile
        275                 280                 285

Thr Tyr Ser Val Lys Thr Lys Gln Ile Gln Asn Ala Ile Leu His Leu
    290                 295                 300

Phe Thr Thr His Arg Ile Gly Thr
305                 310
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<210> 13
<211> 988
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (5)..(958)

<400> 13
acta atg aat atg tcc agc atg gaa acg att aat ttt gtt agc tac ttt 49
Met Asn Met Ser Ser Met Glu Thr Ile Asn Phe Val Ser Tyr Phe
1 5 10 15

atc ctc atg ggc ttt ccc tca agc cca gaa atg cag ctc ctc tac ttt 97
Ile Leu Met Gly Phe Pro Ser Ser Pro Glu Met Gln Leu Leu Tyr Phe
20 25 30

ggt ctc ttc tca tta gcc tat act ctc acc ctg atg gga aat gca tcc 145
Gly Leu Phe Ser Leu Ala Tyr Thr Leu Thr Leu Met Gly Asn Ala Ser
35 40 45

att gtc tgt gct gtg tgg tgg gac cag cac ctt cac act ccc atg tac 193
Ile Val Cys Ala Val Trp Trp Asp Gln His Leu His Thr Pro Met Tyr
50 55 60

acc ctc ttg gga aat ttc tct ctc ctg gaa ata tgt tat gtt att aca 241
Thr Leu Leu Gly Asn Phe Ser Leu Leu Glu Ile Cys Tyr Val Ile Thr
65 70 75

act gtt cct aaa ctg ctg gcc aac ttc ctc tcc aca agc aag tcc atc 289
Thr Val Pro Lys Leu Leu Ala Asn Phe Leu Ser Thr Ser Lys Ser Ile
80 85 90 95

tca ttc atg agt tgt ttt gca cag ttc tac ttc ttc tta tct ttg ggg 337
Ser Phe Met Ser Cys Phe Ala Gln Phe Tyr Phe Phe Leu Ser Leu Gly
100 105 110

tat gat gag ggc ttc ttc ctt tgc atc atg gcc ttt gac agg tat ctt 385
Tyr Asp Glu Gly Phe Phe Leu Cys Ile Met Ala Phe Asp Arg Tyr Leu
115 120 125

gcc atc tgc cgc cct cta cgt tat cca tgc att atg aat aag caa gta 433
Ala Ile Cys Arg Pro Leu Arg Tyr Pro Cys Ile Met Asn Lys Gln Val
130 135 140

tgc act ggc ctt atc atc ttt gca tgg tca tgt gtc ttt gta atc ttc 481
Cys Thr Gly Leu Ile Ile Phe Ala Trp Ser Cys Val Phe Val Ile Phe
145 150 155

cta att ctg ttg att ctc att tca cag ata tcc tac tgt ggc cca aat 529
Leu Ile Leu Leu Ile Leu Ile Ser Gln Ile Ser Tyr Cys Gly Pro Asn
160 165 170 175

att atc aac cat ttt gtt tgt gat cct gta cca ttg gtg atg ctg tcc 577
Ile Ile Asn His Phe Val Cys Asp Pro Val Pro Leu Val Met Leu Ser
180 185 190

tgt tct gca gac ata atc atc acc tat ctc att tac tcc aca ttc aat 625
Cys Ser Ala Asp Ile Ile Ile Thr Tyr Leu Ile Tyr Ser Thr Phe Asn
195 200 205

```
tct atc ttc atg att ggc acc ttt ctc ttt atc ctt tgt tcc tat gct   673
Ser Ile Phe Met Ile Gly Thr Phe Leu Phe Ile Leu Cys Ser Tyr Ala
        210                 215                 220

ctg gtg att ctg gct gta ata cag atg cct tca gag gct ggc aaa cga   721
Leu Val Ile Leu Ala Val Ile Gln Met Pro Ser Glu Ala Gly Lys Arg
    225                 230                 235

aag gct ttc tcc act tgt gcc tct cat ttg gca gtt gtc acc ttg ttt   769
Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ala Val Val Thr Leu Phe
240                 245                 250                 255

tat ggc tct atc atg gtg atg tat gtt agt cct gga tca gca cac cca   817
Tyr Gly Ser Ile Met Val Met Tyr Val Ser Pro Gly Ser Ala His Pro
                260                 265                 270

gta aaa atg caa aaa atc att acc ttg ttc tat tct gtg ata aca cca   865
Val Lys Met Gln Lys Ile Ile Thr Leu Phe Tyr Ser Val Ile Thr Pro
            275                 280                 285

ctc tgt aat cct cta ata tat agt ctc agg agc aaa gag atg aaa gat   913
Leu Cys Asn Pro Leu Ile Tyr Ser Leu Arg Ser Lys Glu Met Lys Asp
        290                 295                 300

tct ctg agg aaa atc ttc agg act gga aaa gat gtt aat aaa ata       958
Ser Leu Arg Lys Ile Phe Arg Thr Gly Lys Asp Val Asn Lys Ile
    305                 310                 315

taaataagag acaattttca tttatcaaat                                 988
```

<210> 14
<211> 318
<212> PRT
<213> Homo sapiens

<400> 14

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Met Asn Met Ser Ser Met Glu Thr Ile Asn Phe Val Ser Tyr Phe Ile
  1               5                  10                  15

Leu Met Gly Phe Pro Ser Ser Pro Glu Met Gln Leu Leu Tyr Phe Gly
             20                  25                  30

Leu Phe Ser Leu Ala Tyr Thr Leu Thr Leu Met Gly Asn Ala Ser Ile
         35                  40                  45

Val Cys Ala Val Trp Trp Asp Gln His Leu His Thr Pro Met Tyr Thr
     50                  55                  60

Leu Leu Gly Asn Phe Ser Leu Leu Glu Ile Cys Tyr Val Ile Thr Thr
 65                  70                  75                  80

Val Pro Lys Leu Leu Ala Asn Phe Leu Ser Thr Ser Lys Ser Ile Ser
                 85                  90                  95

Phe Met Ser Cys Phe Ala Gln Phe Tyr Phe Phe Leu Ser Leu Gly Tyr
            100                 105                 110
```

```
Asp Glu Gly Phe Phe Leu Cys Ile Met Ala Phe Asp Arg Tyr Leu Ala
        115                 120                 125

Ile Cys Arg Pro Leu Arg Tyr Pro Cys Ile Met Asn Lys Gln Val Cys
    130                 135                 140

Thr Gly Leu Ile Ile Phe Ala Trp Ser Cys Val Phe Val Ile Phe Leu
145                 150                 155                 160

Ile Leu Leu Ile Leu Ile Ser Gln Ile Ser Tyr Cys Gly Pro Asn Ile
                165                 170                 175

Ile Asn His Phe Val Cys Asp Pro Val Pro Leu Val Met Leu Ser Cys
            180                 185                 190

Ser Ala Asp Ile Ile Ile Thr Tyr Leu Ile Tyr Ser Thr Phe Asn Ser
        195                 200                 205

Ile Phe Met Ile Gly Thr Phe Leu Phe Ile Leu Cys Ser Tyr Ala Leu
    210                 215                 220

Val Ile Leu Ala Val Ile Gln Met Pro Ser Glu Ala Gly Lys Arg Lys
225                 230                 235                 240

Ala Phe Ser Thr Cys Ala Ser His Leu Ala Val Val Thr Leu Phe Tyr
                245                 250                 255

Gly Ser Ile Met Val Met Tyr Val Ser Pro Gly Ser Ala His Pro Val
            260                 265                 270

Lys Met Gln Lys Ile Ile Thr Leu Phe Tyr Ser Val Ile Thr Pro Leu
        275                 280                 285

Cys Asn Pro Leu Ile Tyr Ser Leu Arg Ser Lys Glu Met Lys Asp Ser
    290                 295                 300

Leu Arg Lys Ile Phe Arg Thr Gly Lys Asp Val Asn Lys Ile
305                 310                 315

<210> 15
<211> 989
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (9)..(953)

<400> 15
ctggccta atg aat gtc tct gag cca aat tcc agc ttt gct ttt gta aat   50
         Met Asn Val Ser Glu Pro Asn Ser Ser Phe Ala Phe Val Asn
           1               5                  10

gaa ttt ata ctc caa ggt ttc tct tgt gag tgg aca att cag atc ttc    98
Glu Phe Ile Leu Gln Gly Phe Ser Cys Glu Trp Thr Ile Gln Ile Phe
 15                  20                  25                  30
```

```
ctc ttc tca ctc ttt act aca ata tat gca ctg act ata aca ggg aat   146
Leu Phe Ser Leu Phe Thr Thr Ile Tyr Ala Leu Thr Ile Thr Gly Asn
                 35                  40                  45

gga gcc att gct ttt gtc ctg tgg tgt gac cgg cga ctt cac act ccc   194
Gly Ala Ile Ala Phe Val Leu Trp Cys Asp Arg Arg Leu His Thr Pro
             50                  55                  60

atg tac atg ttc ctg gga aat ttc tcc ttt tta gag ata tgg tat gtc   242
Met Tyr Met Phe Leu Gly Asn Phe Ser Phe Leu Glu Ile Trp Tyr Val
         65                  70                  75

tct tct aca gtt ccc aag atg ttg gtc aac ttc ctt tca gag aaa aaa   290
Ser Ser Thr Val Pro Lys Met Leu Val Asn Phe Leu Ser Glu Lys Lys
     80                  85                  90

aac atc tcc ttt gct gga tgt ttt ctc cag ttt tat ttc ttc ttc tct   338
Asn Ile Ser Phe Ala Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser
 95                 100                 105                 110

ttg ggt aca tca gaa tgc ttg ctt ttg act gtg atg gcc ttt gat cag   386
Leu Gly Thr Ser Glu Cys Leu Leu Leu Thr Val Met Ala Phe Asp Gln
                115                 120                 125

tac ctt gct atc tgc cgt ccc ttg ctc tat cct aat atc atg act ggg   434
Tyr Leu Ala Ile Cys Arg Pro Leu Leu Tyr Pro Asn Ile Met Thr Gly
            130                 135                 140

cat ctc tat gcc aaa ctg gtc ata ctg tgc tgg gtt tgt gga ttt ctg   482
His Leu Tyr Ala Lys Leu Val Ile Leu Cys Trp Val Cys Gly Phe Leu
        145                 150                 155

tgg ttc ctg atc ccc att gtt ctc atc tct cag aag ccc ttc tgt ggc   530
Trp Phe Leu Ile Pro Ile Val Leu Ile Ser Gln Lys Pro Phe Cys Gly
    160                 165                 170

cca aac att att gac cat gtt gtg tgt gac cca ggg cca cta ttt gca   578
Pro Asn Ile Ile Asp His Val Val Cys Asp Pro Gly Pro Leu Phe Ala
175                 180                 185                 190

ttg gat tgt gtt tct gcc cca aga atc caa ctg ttt tgc tac act cta   626
Leu Asp Cys Val Ser Ala Pro Arg Ile Gln Leu Phe Cys Tyr Thr Leu
                195                 200                 205

agc tca tta gtt att ttt ggt aac ttc ctc ttt att att gga tcc tat   674
Ser Ser Leu Val Ile Phe Gly Asn Phe Leu Phe Ile Ile Gly Ser Tyr
            210                 215                 220

act ctt gtc ctg aaa gct gtg ttg ggt atg cct tca agc act ggg aga   722
Thr Leu Val Leu Lys Ala Val Leu Gly Met Pro Ser Ser Thr Gly Arg
        225                 230                 235

cat aag gcc ttc tct acc tgt ggg tct cat ttg gct gtg gta tca ctg   770
His Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu
    240                 245                 250

tgc tat agc cct ctt atg gtc atg tat gtg agc cca gga ctc gga cat   818
```

```
Cys Tyr Ser Pro Leu Met Val Met Tyr Val Ser Pro Gly Leu Gly His
255                 260                 265                 270

tct aca ggg atg cag aaa att gaa act ttg ttc tat gct atg gtg acc   866
Ser Thr Gly Met Gln Lys Ile Glu Thr Leu Phe Tyr Ala Met Val Thr
                275                 280                 285

cca ctc ttc aat ccc ctt atc tat agc ctc cag aat aag gag ata aag   914
Pro Leu Phe Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Ile Lys
            290                 295                 300

gca gcc ctg agg aaa gtt ctg ggg agt tcc aac ata atc taaggcatat    963
Ala Ala Leu Arg Lys Val Leu Gly Ser Ser Asn Ile Ile
        305                 310                 315

tagattattc ctccatgatc agatca                                     989

<210> 16
<211> 315
<212> PRT
<213> Homo sapiens

<400> 16
Met Asn Val Ser Glu Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe
  1               5                  10                  15

Ile Leu Gln Gly Phe Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe
             20                  25                  30

Ser Leu Phe Thr Thr Ile Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala
         35                  40                  45

Ile Ala Phe Val Leu Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr
     50                  55                  60

Met Phe Leu Gly Asn Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser
 65                  70                  75                  80

Thr Val Pro Lys Met Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile
                 85                  90                  95

Ser Phe Ala Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly
            100                 105                 110

Thr Ser Glu Cys Leu Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu
        115                 120                 125

Ala Ile Cys Arg Pro Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu
    130                 135                 140

Tyr Ala Lys Leu Val Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe
145                 150                 155                 160

Leu Ile Pro Ile Val Leu Ile Ser Gln Lys Pro Phe Cys Gly Pro Asn
                165                 170                 175

Ile Ile Asp His Val Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Asp
```

```
            180                 185                 190

Cys Val Ser Ala Pro Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser
        195                 200                 205

Leu Val Ile Phe Gly Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu
    210                 215                 220

Val Leu Lys Ala Val Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys
225                 230                 235                 240

Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr
                245                 250                 255

Ser Pro Leu Met Val Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr
            260                 265                 270

Gly Met Gln Lys Ile Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu
        275                 280                 285

Phe Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala
    290                 295                 300

Leu Arg Lys Val Leu Gly Ser Ser Asn Ile Ile
305                 310                 315
```

<210> 17
<211> 987
<212> DNA
<213> Homo sapiens

<400> 17

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atgggagagc aaactaaaag agaaaaatca aatgtgacta caataatgga atttgttctt  60
ttggggtttt ctgatattcc caatctccac tggatgcttt ttagtatatt tttacttatg 120
tatttgatga tcctgatgtg caatggcatc ataatactac taataaaaat tcaccccgct 180
ctccagactc ccatgtattt ttttcttagc aatttttccc ttttggaaat ctgttatgta 240
acaatcatta tcccaagaat gctcatggac atttggacca gaaaggaaat atttctttgt 300
ttgcttgtgc tacacaaatg tgtttttttc ttatgcttgg aggcacggag tgtctccttc 360
tgacagtgat ggcctatgac cgctacgtgg ctatttgtaa gcctttgcag tatcctctag 420
tgatgaacca caaagtctgc attcagctga taatagcttc ctggaccatc acaattcctg 480
tagtaattgg ggaaacatgc caaattttcc ttttgccctt ttgcggaact aacacaatta 540
atcatttctt ttgtgacatc ccgccaatac tcaagcttgc ttgtggaaac atatttgtga 600
atgagataac agtccatgta gtagcggtgg tgtttatcac ggtgccattt ctgttgattg 660
ttgtctctta tggcaaaatt atctccaaca ttttgaaatg tcatcagcca gaggaaaggc 720
taaagccttc tccacctgct catctcacct aatagttgta atcttattct ttggagcagg 780
tactatcact tatttacagc ccaaaccaca tcagtttcaa aggatgggga aactgatttc 840
tcttttctac accattctga ttccaacttt gaatcctatt atatataccc tgaggaacaa 900
agatatcatg gtggcattga gaaaattact agctaagtta ttaacatgag atgaagactt 960
gaaattacag aaataatttc tttatag                                    987
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<210> 18
<211> 316
<212> PRT
<213> Homo sapiens

<400> 18

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Met Gly Glu Gln Thr Lys Arg Glu Lys Ser Asn Val Thr Thr Ile Met
```

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  1               5                  10                  15

Glu Phe Val Leu Leu Gly Phe Ser Asp Ile Pro Asn Leu His Trp Met
             20                  25                  30

Leu Phe Ser Ile Phe Leu Leu Met Tyr Leu Met Ile Leu Met Cys Asn
         35                  40                  45

Gly Ile Ile Ile Leu Leu Ile Lys Ile His Pro Ala Leu Gln Thr Pro
     50                  55                  60

Met Tyr Phe Phe Leu Ser Asn Phe Ser Leu Leu Glu Ile Cys Tyr Val
 65                  70                  75                  80

Thr Ile Ile Ile Pro Arg Met Leu Met Asp Ile Trp Thr Gln Lys Gly
                 85                  90                  95

Asn Ile Ser Leu Phe Ala Cys Ala Thr Gln Met Cys Phe Phe Leu Met
            100                 105                 110

Leu Gly Gly Thr Glu Cys Leu Leu Leu Thr Val Met Ala Tyr Asp Arg
        115                 120                 125

Tyr Val Ala Ile Cys Lys Pro Leu Gln Tyr Pro Leu Val Met Asn His
    130                 135                 140

Lys Val Cys Ile Gln Leu Ile Ile Ala Ser Trp Thr Ile Thr Ile Pro
145                 150                 155                 160

Val Val Ile Gly Glu Thr Cys Gln Ile Phe Leu Leu Pro Phe Cys Gly
                165                 170                 175

Thr Asn Thr Ile Asn His Phe Phe Cys Asp Ile Pro Pro Ile Leu Lys
            180                 185                 190

Leu Ala Cys Gly Asn Ile Phe Val Asn Glu Ile Thr Val His Val Val
        195                 200                 205

Ala Val Val Phe Ile Thr Val Pro Phe Leu Leu Ile Val Val Ser Tyr
    210                 215                 220

Gly Lys Ile Ile Ser Asn Ile Leu Lys Leu Ser Ser Ala Arg Gly Lys
225                 230                 235                 240

Ala Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val Val Ile Leu
                245                 250                 255

Phe Phe Gly Ala Gly Thr Ile Thr Tyr Leu Gln Pro Lys Pro His Gln
            260                 265                 270

Phe Gln Arg Met Gly Lys Leu Ile Ser Leu Phe Tyr Thr Ile Leu Ile
        275                 280                 285

Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Ile Met
    290                 295                 300

Val Ala Leu Arg Lys Leu Leu Ala Lys Leu Leu Thr
```

```
305                 310                 315

<210> 19
<211> 999
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (3)..(941)

<400> 19
tc atg gct gat gat aat ttt aca gtt gtc act gag ttt att ctt ttg     47
   Met Ala Asp Asp Asn Phe Thr Val Val Thr Glu Phe Ile Leu Leu
     1               5                  10                  15

gga ttg aca gat cat gct gaa cta aaa gct gtg ctt ttt gtg gtg ttc    95
Gly Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe
                 20                  25                  30

ctg gtg att tac gcc att acc ttg ttg agg aat ctg ggc atg atc ctc   143
Leu Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu
             35                  40                  45

tta atc caa atc acc tcc aaa ctc cac aca ccc atg tac ttt tta ctc   191
Leu Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu
         50                  55                  60

agc tgt ctt tca ttt gtg gat gcc tgc tat tca tct gca att gca ccc   239
Ser Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro
     65                  70                  75

aaa atg ctg gtg aac ctc ctg gtt gtg aag gca aca att tct ttc tct   287
Lys Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser
 80                  85                  90                  95

gct tgc atg gta cag cat ttg tgt ttc gga gtg ttc atc acc aca gaa   335
Ala Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu
                100                 105                 110

ggc ttc tta ctg tca gtg atg gcc tat gac cgc tat gtg gcc att gtg   383
Gly Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val
            115                 120                 125

agt ccc ttg ctt tac act gta gcc atg tct gat aga aag tgt gtg gag   431
Ser Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu
        130                 135                 140

ctt gtc aca gga tca tgg ata ggt gga ata gtt aac aca tta atc cac   479
Leu Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His
    145                 150                 155

aca atc agc ttg agg aga ctg tcc ttt tgt agg cta aat gct gtc agc   527
Thr Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser
160                 165                 170                 175

cac ttc ttc tgt gac att cct tca ctg cta aag ctg tca tgt tct gac   575
```

```
His Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp
                180                 185                 190

acc tcc atg aat gag ttg ttg ctg tta acc ttc tcc gga gtc att gcc   623
Thr Ser Met Asn Glu Leu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala
            195                 200                 205

atg gcc acc ttc ttg act gtg atc att tcc tac atc ttc att gct ttt   671
Met Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe
        210                 215                 220

gct agc cta agg atc cac tca gca tca ggc aga cag caa gcc ttc tcc   719
Ala Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser
    225                 230                 235

acc tgt gcc tct cac ctg act gct gtg acc ata ttc tat ggt acc tta   767
Thr Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu
240                 245                 250                 255

atc ttt agc tac att cag cca agc tcc cag tat ttt gtg gaa caa gag   815
Ile Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu
                260                 265                 270

aaa gtg gtt tct atg ttc tat acg cta ggg att ccc atg tta aac ctg   863
Lys Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu
            275                 280                 285

ttg ata cac agt ttg aga aac aag gac gta aag gag gca gtg aaa agg   911
Leu Ile His Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Lys Arg
        290                 295                 300

atg ggc caa cac aat cta aca gtg ctt aac tgaattcatt ctgatggaac     961
Met Gly Gln His Asn Leu Thr Val Leu Asn
    305                 310

tcacaaggcg gcctgagctg cagattcccc tttttgga                        999

<210> 20
<211> 313
<212> PRT
<213> Homo sapiens

<400> 20
Met Ala Asp Asp Asn Phe Thr Val Val Thr Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe Leu
             20                  25                  30

Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu Leu
         35                  40                  45

Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu Ser
     50                  55                  60

Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro Lys
 65                  70                  75                  80
```

```
Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser Ala
                 85                  90                  95

Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu Gly
            100                 105                 110

Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val Ser
        115                 120                 125

Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu Leu
    130                 135                 140

Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His Thr
145                 150                 155                 160

Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser His
                165                 170                 175

Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr
            180                 185                 190

Ser Met Asn Glu Leu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala Met
        195                 200                 205

Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe Ala
    210                 215                 220

Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser Thr
225                 230                 235                 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile
                245                 250                 255

Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu Lys
            260                 265                 270

Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu Leu
        275                 280                 285

Ile His Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Lys Arg Met
    290                 295                 300

Gly Gln His Asn Leu Thr Val Leu Asn
305                 310
```

<210> 21
<211> 974
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (3)..(959)

<400> 21
at atg gat cta tac aag ctt caa tta aac aat ttt act gaa gtc acc 47

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   Met Asp Leu Tyr Lys Leu Gln Leu Asn Asn Phe Thr Glu Val Thr
     1               5                  10                  15

atg ttt ata tta ata agc ttc aca gaa gaa ttt gat gtg caa gtc ttc    95
Met Phe Ile Leu Ile Ser Phe Thr Glu Glu Phe Asp Val Gln Val Phe
                 20                  25                  30

cta ttt tta tta ttt tta gca atc tat cta ttc act cta ata ggc aat   143
Leu Phe Leu Leu Phe Leu Ala Ile Tyr Leu Phe Thr Leu Ile Gly Asn
             35                  40                  45

tta ggg ctg gtt gta ccg atc att ggg gat ttc tgg ctt cac agc cca   191
Leu Gly Leu Val Val Pro Ile Ile Gly Asp Phe Trp Leu His Ser Pro
         50                  55                  60

atg tac tat ttt ctt ggt gtt tta tca ttc ttg gat gtc tgc tat tct   239
Met Tyr Tyr Phe Leu Gly Val Leu Ser Phe Leu Asp Val Cys Tyr Ser
     65                  70                  75

aca gtt gtc act cca aaa atg ttg gtc aat ttc ctg gca aaa aat aaa   287
Thr Val Val Thr Pro Lys Met Leu Val Asn Phe Leu Ala Lys Asn Lys
 80                  85                  90                  95

tct att tca ttt ctt gga tgt gca aca cag atg ttt ctt gct tgt act   335
Ser Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Phe Leu Ala Cys Thr
                100                 105                 110

ttt gga acc aca gaa tgc ttt ctc ttg gct gca atg gct tat gat cgc   383
Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg
            115                 120                 125

tat gta gcc atc tac aac cct ctc ctg tat tca gtg agc atg tca ccc   431
Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr Ser Val Ser Met Ser Pro
        130                 135                 140

aga gtc tat gtg cca ctc atc act gct tcc tat gtt gct agc att tta   479
Arg Val Tyr Val Pro Leu Ile Thr Ala Ser Tyr Val Ala Ser Ile Leu
    145                 150                 155

cat gct act ata cat aca gtg gct aca ttt agc ctg tcc ttc tgt gga   527
His Ala Thr Ile His Thr Val Ala Thr Phe Ser Leu Ser Phe Cys Gly
160                 165                 170                 175

tcc aat gaa att agg cat gtc ttt tgt aat atg cct cct ctg ctt gct   575
Ser Asn Glu Ile Arg His Val Phe Cys Asn Met Pro Pro Leu Leu Ala
                180                 185                 190

att tct tgt tct gac act cac gta atc cag ctt cta ttc ttc tac ttt   623
Ile Ser Cys Ser Asp Thr His Val Ile Gln Leu Leu Phe Phe Tyr Phe
            195                 200                 205

gtg ggc tct att gag ata gtc act atc ctg att gtc ctg atc tcc tat   671
Val Gly Ser Ile Glu Ile Val Thr Ile Leu Ile Val Leu Ile Ser Tyr
        210                 215                 220

ggt ttt att ctg ttg gcc att ctg aag atg cag tct gct gaa ggg agg   719
Gly Phe Ile Leu Leu Ala Ile Leu Lys Met Gln Ser Ala Glu Gly Arg
```

```
    225                 230                 235

aga aaa gtc ttc tct aca tgt gga gct cac cta act gga gtg aca att   767
Arg Lys Val Phe Ser Thr Cys Gly Ala His Leu Thr Gly Val Thr Ile
240                 245                 250                 255

tat cat ggg aca atc ctc ttc atg tat gtg aga cca agt tcc agc tac   815
Tyr His Gly Thr Ile Leu Phe Met Tyr Val Arg Pro Ser Ser Ser Tyr
                260                 265                 270

act tcg gac aat gac atg ata gtg tca ata ttt tat acc att gtg att   863
Thr Ser Asp Asn Asp Met Ile Val Ser Ile Phe Tyr Thr Ile Val Ile
            275                 280                 285

ccc atg ctg aat ccc atc atc tac agt ttg cgg aac aaa gat gta aag   911
Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
        290                 295                 300

gag gca atc aaa aga ttg ctt gtg aga aat tgg ttc ata aat aag tta   959
Glu Ala Ile Lys Arg Leu Leu Val Arg Asn Trp Phe Ile Asn Lys Leu
    305                 310                 315

tagttttaaa attga                                                  974

<210> 22
<211> 319
<212> PRT
<213> Homo sapiens

<400> 22
Met Asp Leu Tyr Lys Leu Gln Leu Asn Asn Phe Thr Glu Val Thr Met
  1               5                  10                  15

Phe Ile Leu Ile Ser Phe Thr Glu Glu Phe Asp Val Gln Val Phe Leu
             20                  25                  30

Phe Leu Leu Phe Leu Ala Ile Tyr Leu Phe Thr Leu Ile Gly Asn Leu
         35                  40                  45

Gly Leu Val Val Pro Ile Ile Gly Asp Phe Trp Leu His Ser Pro Met
     50                  55                  60

Tyr Tyr Phe Leu Gly Val Leu Ser Phe Leu Asp Val Cys Tyr Ser Thr
 65                  70                  75                  80

Val Val Thr Pro Lys Met Leu Val Asn Phe Leu Ala Lys Asn Lys Ser
                 85                  90                  95

Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Phe Leu Ala Cys Thr Phe
            100                 105                 110

Gly Thr Thr Glu Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr
        115                 120                 125

Val Ala Ile Tyr Asn Pro Leu Leu Tyr Ser Val Ser Met Ser Pro Arg
    130                 135                 140
```

```
Val Tyr Val Pro Leu Ile Thr Ala Ser Tyr Val Ala Ser Ile Leu His
145                 150                 155                 160

Ala Thr Ile His Thr Val Ala Thr Phe Ser Leu Ser Phe Cys Gly Ser
                165                 170                 175

Asn Glu Ile Arg His Val Phe Cys Asn Met Pro Pro Leu Leu Ala Ile
            180                 185                 190

Ser Cys Ser Asp Thr His Val Ile Gln Leu Leu Phe Phe Tyr Phe Val
        195                 200                 205

Gly Ser Ile Glu Ile Val Thr Ile Leu Ile Val Leu Ile Ser Tyr Gly
    210                 215                 220

Phe Ile Leu Leu Ala Ile Leu Lys Met Gln Ser Ala Glu Gly Arg Arg
225                 230                 235                 240

Lys Val Phe Ser Thr Cys Gly Ala His Leu Thr Gly Val Thr Ile Tyr
                245                 250                 255

His Gly Thr Ile Leu Phe Met Tyr Val Arg Pro Ser Ser Ser Tyr Thr
            260                 265                 270

Ser Asp Asn Asp Met Ile Val Ser Ile Phe Tyr Thr Ile Val Ile Pro
        275                 280                 285

Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu
    290                 295                 300

Ala Ile Lys Arg Leu Leu Val Arg Asn Trp Phe Ile Asn Lys Leu
305                 310                 315
```

<210> 23
<211> 966
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (14)..(955)

<400> 23

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atttgttggg aat atg gaa aaa aga aat cta aca gtt gtc agg gaa ttc     49
               Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe
                 1               5                  10

gtc ctt ctg gga ctt cct agc tca gca gag cag cag cac ctc ctg tct    97
Val Leu Leu Gly Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser
         15                  20                  25

gtg ctc ttt ctc tgt atg tat tta gcc acc acc ttg ggg aac atg ctc   145
Val Leu Phe Leu Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu
     30                  35                  40

atc att gcg acg att ggc ttt gac tct cac ctc cat tcc cct atg tac   193
Ile Ile Ala Thr Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr
```

```
 45                  50                  55                  60

ttc ttc ctt agt aac ttg gcc ttt gtt gac atc tgc ttt acg tcg act   241
Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr
                 65                  70                  75

aca gtc ccc caa atg gta gtg aat atc ttg act ggc acc aag act atc   289
Thr Val Pro Gln Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile
             80                  85                  90

tct ttt gca ggc tgc ctc acc cag ctc ttc ttc ttc gtt tct ttt gtg   337
Ser Phe Ala Gly Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val
         95                 100                 105

aat atg gac agc ctc ctt ctg tgt gtg atg gcg tat gat aga tat gtg   385
Asn Met Asp Ser Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val
    110                 115                 120

gcg att tgc cac ccc tta cat tac acc gcc aga atg aac ctg tgc ctt   433
Ala Ile Cys His Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu
125                 130                 135                 140

tgt gtc cag cta gtg gct gga ctg tgg ctt gtt act tac ctc cac gcc   481
Cys Val Gln Leu Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala
                145                 150                 155

ctc ctg cat act gtc cta ata gca cag ctg tcc ttc tgt gcc tcc aat   529
Leu Leu His Thr Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn
            160                 165                 170

atc atc cat cat ttc ttc tgt gat ctc aat cct ctc ctg cag ctc tct   577
Ile Ile His His Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser
        175                 180                 185

tgc tct gac gtc tcc ttc aat gta atg atc att ttt gca gta gga ggt   625
Cys Ser Asp Val Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly
    190                 195                 200

cta ttg gct ctc acg ccc ctt gtc tgt atc ctc gta tct tat gga ctt   673
Leu Leu Ala Leu Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu
205                 210                 215                 220

atc ttc tcc act gtt ctg aag atc acc tct act cag ggc aag cag aga   721
Ile Phe Ser Thr Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg
                225                 230                 235

gct gtt tcc acc tgc agc tgc cac ctg tca gtg gtg gtg ttg ttt tac   769
Ala Val Ser Thr Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr
            240                 245                 250

ggc aca gcc atc gcc gtc tat ttc agc cct tca tcc ccc cat atg cct   817
Gly Thr Ala Ile Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro
        255                 260                 265

gag agc gac act ctg tca acc atc atg tat tca atg gtg gct ccg atg   865
Glu Ser Asp Thr Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met
    270                 275                 280
```

```
ctg aat cct ttc atc tat acc cta agg aac agg gat atg aag agg gga   913
Leu Asn Pro Phe Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly
285                 290                 295                 300

ctt cag aaa atg ctt ctc aag tgc aca gtc ttt cag cag caa           955
Leu Gln Lys Met Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
                305                 310

taatgacctc a                                                     966
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<210> 24
<211> 314
<212> PRT
<213> Homo sapiens

<400> 24

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Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly
  1               5                  10                  15

Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu
             20                  25                  30

Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr
         35                  40                  45

Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln
 65                  70                  75                  80

Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly
                 85                  90                  95

Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser
            100                 105                 110

Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
        115                 120                 125

Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu
    130                 135                 140

Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr
145                 150                 155                 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His
                165                 170                 175

Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val
            180                 185                 190

Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu
        195                 200                 205

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr
```

```
    210                 215                 220

Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr
225                 230                 235                 240

Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile
                245                 250                 255

Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr
            260                 265                 270

Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met
    290                 295                 300

Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
305                 310

<210> 25
<211> 828
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(825)

<400> 25
atg gga aat gcc atc att aca gtc atc atc tcc tta aac cag agc ctc    48
Met Gly Asn Ala Ile Ile Thr Val Ile Ile Ser Leu Asn Gln Ser Leu
  1               5                  10                  15

cac gtt ccc atg tac ctg ttc ctc ctg aac cta tct gtg gtg gag gtg    96
His Val Pro Met Tyr Leu Phe Leu Leu Asn Leu Ser Val Val Glu Val
            20                  25                  30

agt ttc agt gca gtc att acg cct gaa atg ctg gtg gtg ctc tct act   144
Ser Phe Ser Ala Val Ile Thr Pro Glu Met Leu Val Val Leu Ser Thr
        35                  40                  45

gag aaa act atg att tct ttt gtg ggc tgt ttt gca cag atg tat ttc   192
Glu Lys Thr Met Ile Ser Phe Val Gly Cys Phe Ala Gln Met Tyr Phe
    50                  55                  60

atc ctt ctt ttt ggt ggg act gaa tgt ttt ctc ctg gga gcg atg gct   240
Ile Leu Leu Phe Gly Gly Thr Glu Cys Phe Leu Leu Gly Ala Met Ala
65                  70                  75                  80

tat gac cga ttt gct gca att tgc cat cct ctg aac tac cca gtg att   288
Tyr Asp Arg Phe Ala Ala Ile Cys His Pro Leu Asn Tyr Pro Val Ile
                85                  90                  95

atg aac aga ggg gtt ttt atg aaa tta gta ata ttc tca tgg atc tca   336
Met Asn Arg Gly Val Phe Met Lys Leu Val Ile Phe Ser Trp Ile Ser
            100                 105                 110
```

```
ggg atc atg gtg gct act gtg cag acc act tgg gta ttt agt ttt cca   384
Gly Ile Met Val Ala Thr Val Gln Thr Thr Trp Val Phe Ser Phe Pro
        115                 120                 125

ttt tgt ggc ccc aat gaa att aat cat ctc ttc tgt gag act ccc ccg   432
Phe Cys Gly Pro Asn Glu Ile Asn His Leu Phe Cys Glu Thr Pro Pro
    130                 135                 140

gta cta gag ctt gtg tgt gca gac acc ttc tta ttt gaa atc tat gcc   480
Val Leu Glu Leu Val Cys Ala Asp Thr Phe Leu Phe Glu Ile Tyr Ala
145                 150                 155                 160

ttc aca ggc acc att ttg att gtt atg gtt cct ttc ttg ttg atc ctc   528
Phe Thr Gly Thr Ile Leu Ile Val Met Val Pro Phe Leu Leu Ile Leu
                165                 170                 175

ttg tct tac att cga gtt ctg ttt gcc atc ctg aag atg cca tca act   576
Leu Ser Tyr Ile Arg Val Leu Phe Ala Ile Leu Lys Met Pro Ser Thr
            180                 185                 190

act ggg aga caa aag gcc ttt tcc acc tgt gcc tct cac ctc aca tct   624
Thr Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Ser
        195                 200                 205

gtg acc ctg ttc tat ggc aca gcc aat atg act tat tta caa ccc aaa   672
Val Thr Leu Phe Tyr Gly Thr Ala Asn Met Thr Tyr Leu Gln Pro Lys
    210                 215                 220

tct ggc tac tca ccc gaa acc aag aaa ctg atc tca ttg gct tac acg   720
Ser Gly Tyr Ser Pro Glu Thr Lys Lys Leu Ile Ser Leu Ala Tyr Thr
225                 230                 235                 240

ttg ctt acc cct ctg ctc aat ccg ctc atc tat agc tta cga aac agt   768
Leu Leu Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Ser
                245                 250                 255

gag atg aag agg act ttg ata aaa cta tgg cga aga aaa gtg att tta   816
Glu Met Lys Arg Thr Leu Ile Lys Leu Trp Arg Arg Lys Val Ile Leu
            260                 265                 270

cac aca ttc tga                                                   828
His Thr Phe
        275
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<210> 26
<211> 275
<212> PRT
<213> Homo sapiens

<400> 26

```
Met Gly Asn Ala Ile Ile Thr Val Ile Ile Ser Leu Asn Gln Ser Leu
  1               5                  10                  15

His Val Pro Met Tyr Leu Phe Leu Leu Asn Leu Ser Val Val Glu Val
             20                  25                  30
```

```
Ser Phe Ser Ala Val Ile Thr Pro Glu Met Leu Val Val Leu Ser Thr
         35                  40                  45

Glu Lys Thr Met Ile Ser Phe Val Gly Cys Phe Ala Gln Met Tyr Phe
     50                  55                  60

Ile Leu Leu Phe Gly Gly Thr Glu Cys Phe Leu Leu Gly Ala Met Ala
 65                  70                  75                  80

Tyr Asp Arg Phe Ala Ala Ile Cys His Pro Leu Asn Tyr Pro Val Ile
                 85                  90                  95

Met Asn Arg Gly Val Phe Met Lys Leu Val Ile Phe Ser Trp Ile Ser
            100                 105                 110

Gly Ile Met Val Ala Thr Val Gln Thr Thr Trp Val Phe Ser Phe Pro
        115                 120                 125

Phe Cys Gly Pro Asn Glu Ile Asn His Leu Phe Cys Glu Thr Pro Pro
    130                 135                 140

Val Leu Glu Leu Val Cys Ala Asp Thr Phe Leu Phe Glu Ile Tyr Ala
145                 150                 155                 160

Phe Thr Gly Thr Ile Leu Ile Val Met Val Pro Phe Leu Leu Ile Leu
                165                 170                 175

Leu Ser Tyr Ile Arg Val Leu Phe Ala Ile Leu Lys Met Pro Ser Thr
            180                 185                 190

Thr Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Ser
        195                 200                 205

Val Thr Leu Phe Tyr Gly Thr Ala Asn Met Thr Tyr Leu Gln Pro Lys
    210                 215                 220

Ser Gly Tyr Ser Pro Glu Thr Lys Lys Leu Ile Ser Leu Ala Tyr Thr
225                 230                 235                 240

Leu Leu Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Ser
                245                 250                 255

Glu Met Lys Arg Thr Leu Ile Lys Leu Trp Arg Arg Lys Val Ile Leu
            260                 265                 270

His Thr Phe
        275
```

<210> 27
<211> 955
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (6)..(944)

<400> 27
taaga atg cct ata gct aac gac acc ccg ttc cat act tct tca ttc cta 50
      Met Pro Ile Ala Asn Asp Thr Pro Phe His Thr Ser Ser Phe Leu
        1   5   10   15

ctg ctg ggt atc cca ggg cta gaa gat gtg cac atc tgg att gga ttc   98
Leu Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe
                20   25   30

cct ttt ttc tct gtg tat ctt gtt gca ctc ctg gga aat gct gct atc   146
Pro Phe Phe Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Ala Ile
            35   40   45

ttg ttt gtg atc caa act gag cag agt ctc cat gag ccc atg tac tac   194
Leu Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr
         50   55   60

ttc ctg gcc atg ttg gat tcc att gac ctg agc ttg tct acg gcc acc   242
Phe Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr
     65   70   75

att ccc aaa atg ctg ggc atc ttc tgg ttc aat atc aag gaa ata cct   290
Ile Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Pro
 80   85   90   95

ttt gga ggc tac ctt tct cag atg ttc ttc atc cat ttc ttc act gtc   338
Phe Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val
                100   105   110

atg gag agc atc gtg ttg gtg gcc atg gcc ttt gac cgc tac att gcc   386
Met Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala
            115   120   125

att tgc aaa cct ctt cgg tac acc atg atc ctc acc agc aaa atc atc   434
Ile Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile
        130   135   140

agc ctc att gca ggc att gct gtc ctg agg agc ttg tac atg gtc gtt   482
Ser Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Val
    145   150   155

cca ctg gtg ttt ctc ctc tta agg ttg ccc ttc tgt gga cat cgt atc   530
Pro Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile
160   165   170   175

atc cct cat act tac tgt gag cac atg ggc att gcc cgt ctg gcc tgt   578
Ile Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys
                180   185   190

gcc agc atc aaa gtc aac att agg ttt ggt ctt ggc agt att tct ctc   626
Ala Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Ser Ile Ser Leu
            195   200   205

ttg tta ttg gat gtg ctc ctt att att ctc tcc cat atc agg atc ctc   674
Leu Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu
        210   215   220

```
tat gct gtc ttc tgc ctg ccc tcc tgg gaa gct cga ctc aaa gct ctc   722
Tyr Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu
    225                 230                 235

aac acc tgt ggc tct cac att ggt gtt atc tta gcc ttt tct aca cca   770
Asn Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro
240                 245                 250                 255

gca ttt ttc tct ttc ttt aca cac tgc ttt ggc cat gat att ccc caa   818
Ala Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln
                260                 265                 270

tat atc cac att ttc ttg gct aat cta tat gtg gtt gtt cct ccc acc   866
Tyr Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr
            275                 280                 285

ctc aat cct gta atc tat ggg gtc aga acc aaa cat att agg gag aca   914
Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr
        290                 295                 300

gtg ctg agg att ttc ttc aag aca gat cac taaggagttg a             955
Val Leu Arg Ile Phe Phe Lys Thr Asp His
    305                 310
```

<210> 28
<211> 313
<212> PRT
<213> Homo sapiens

<400> 28

```
Met Pro Ile Ala Asn Asp Thr Pro Phe His Thr Ser Ser Phe Leu Leu
  1               5                  10                  15

Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro
             20                  25                  30

Phe Phe Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Ala Ile Leu
         35                  40                  45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Phe
     50                  55                  60

Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile
 65                  70                  75                  80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Pro Phe
                 85                  90                  95

Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met
            100                 105                 110

Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile
        115                 120                 125

Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser
    130                 135                 140
```

```
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Val Pro
145                 150                 155                 160

Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile
                165                 170                 175

Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala
            180                 185                 190

Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Ser Ile Ser Leu Leu
        195                 200                 205

Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr
    210                 215                 220

Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn
225                 230                 235                 240

Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala
                245                 250                 255

Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr
            260                 265                 270

Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu
        275                 280                 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val
    290                 295                 300

Leu Arg Ile Phe Phe Lys Thr Asp His
305                 310
```

<210> 29
<211> 946
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (3)..(935)

<400> 29

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ac atg gag ata aag aac tac agc agc agc acc tca ggc ttc atc ctc     47
   Met Glu Ile Lys Asn Tyr Ser Ser Ser Thr Ser Gly Phe Ile Leu
     1               5                  10                  15

ctg ggc ctc tct tcc aac cct aag ctg cag aaa cct ctc ttt gcc atc     95
Leu Gly Leu Ser Ser Asn Pro Lys Leu Gln Lys Pro Leu Phe Ala Ile
                 20                  25                  30

ttc ctc atc atg tac ctg ctc gct gcg gtg ggg aat gtg ctc atc atc   143
Phe Leu Ile Met Tyr Leu Leu Ala Ala Val Gly Asn Val Leu Ile Ile
             35                  40                  45

ccg gcc atc tac tct gac ccc agg ctc cac acc cct atg tac ttt ttt   191
Pro Ala Ile Tyr Ser Asp Pro Arg Leu His Thr Pro Met Tyr Phe Phe
```

```
         50                  55                  60

ttc agc aac ttg tct ttc atg gat atc tgc ttc aca aca gtc ata gtg   239
Phe Ser Asn Leu Ser Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val
     65                  70                  75

cct aag atg ctg gtg aat ttt cta tca gag aca aag gtt atc tcc tat   287
Pro Lys Met Leu Val Asn Phe Leu Ser Glu Thr Lys Val Ile Ser Tyr
 80                  85                  90                  95

gtg ggc tgc ctg gcc cag atg tac ttc ttt atg gca ttt ggg aac act   335
Val Gly Cys Leu Ala Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr
                100                 105                 110

gac agc tac ctg ctg gcc tct atg gcc atc gac cgg ctg gtg gcc atc   383
Asp Ser Tyr Leu Leu Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile
            115                 120                 125

tgc aac ccc tta cac tat gat gtg gtt atg aaa cca cgg cat tgc ctg   431
Cys Asn Pro Leu His Tyr Asp Val Val Met Lys Pro Arg His Cys Leu
        130                 135                 140

ctc atg cta ttg ggt tct tac agc atc tcc cac cta cat tcc ctg ttc   479
Leu Met Leu Leu Gly Ser Tyr Ser Ile Ser His Leu His Ser Leu Phe
    145                 150                 155

cgc gtg cta ctt atg tct cgc ttg tct ttc tgt gcc tct cac atc att   527
Arg Val Leu Leu Met Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile
160                 165                 170                 175

aag cac ttt ttc tgt gac acc cag cct gtg cta aag ctc tcc tgc tct   575
Lys His Phe Phe Cys Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser
                180                 185                 190

gac aca tcc tcc agc cag atg gtg gtg atg act gag acc tta gct gtc   623
Asp Thr Ser Ser Ser Gln Met Val Val Met Thr Glu Thr Leu Ala Val
            195                 200                 205

att gtg acc ccc ttc ctg tgt acc atc ttc tcc tac ctg caa atc atc   671
Ile Val Thr Pro Phe Leu Cys Thr Ile Phe Ser Tyr Leu Gln Ile Ile
        210                 215                 220

gtc act gtg ctc aga atc ccc tct gca gcc agg aag tgg aag gcc ttc   719
Val Thr Val Leu Arg Ile Pro Ser Ala Ala Arg Lys Trp Lys Ala Phe
    225                 230                 235

tct acc tgt ggc tcc cac ctc act gca gta gcc ctt ttc tat ggg agt   767
Ser Thr Cys Gly Ser His Leu Thr Ala Val Ala Leu Phe Tyr Gly Ser
240                 245                 250                 255

att att tat gtc tat ttt agg ccc ctg tcc atg tac tca gtg gtt agg   815
Ile Ile Tyr Val Tyr Phe Arg Pro Leu Ser Met Tyr Ser Val Val Arg
                260                 265                 270

gac cgg gta gcc aca gtt atg tac aca gta gtg aca ccc atg ctg aac   863
Asp Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn
            275                 280                 285
```

```
cct ttc atc tac agc ctg agg aac aaa gat atg aag agg ggt ttg aag   911
Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Lys
        290                 295                 300

aaa tta cag gac aga att tac cgg taaaaggaac a                     946
Lys Leu Gln Asp Arg Ile Tyr Arg
    305                 310
```

<210> 30
<211> 311
<212> PRT
<213> Homo sapiens

<400> 30

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Met Glu Ile Lys Asn Tyr Ser Ser Ser Thr Ser Gly Phe Ile Leu Leu
  1               5                  10                  15

Gly Leu Ser Ser Asn Pro Lys Leu Gln Lys Pro Leu Phe Ala Ile Phe
             20                  25                  30

Leu Ile Met Tyr Leu Leu Ala Ala Val Gly Asn Val Leu Ile Ile Pro
         35                  40                  45

Ala Ile Tyr Ser Asp Pro Arg Leu His Thr Pro Met Tyr Phe Phe Phe
     50                  55                  60

Ser Asn Leu Ser Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val Pro
 65                  70                  75                  80

Lys Met Leu Val Asn Phe Leu Ser Glu Thr Lys Val Ile Ser Tyr Val
                 85                  90                  95

Gly Cys Leu Ala Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr Asp
            100                 105                 110

Ser Tyr Leu Leu Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys
        115                 120                 125

Asn Pro Leu His Tyr Asp Val Val Met Lys Pro Arg His Cys Leu Leu
    130                 135                 140

Met Leu Leu Gly Ser Tyr Ser Ile Ser His Leu His Ser Leu Phe Arg
145                 150                 155                 160

Val Leu Leu Met Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile Lys
                165                 170                 175

His Phe Phe Cys Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp
            180                 185                 190

Thr Ser Ser Ser Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile
        195                 200                 205

Val Thr Pro Phe Leu Cys Thr Ile Phe Ser Tyr Leu Gln Ile Ile Val
    210                 215                 220
```

```
Thr Val Leu Arg Ile Pro Ser Ala Ala Arg Lys Trp Lys Ala Phe Ser
225                 230                 235                 240

Thr Cys Gly Ser His Leu Thr Ala Val Ala Leu Phe Tyr Gly Ser Ile
                245                 250                 255

Ile Tyr Val Tyr Phe Arg Pro Leu Ser Met Tyr Ser Val Val Arg Asp
            260                 265                 270

Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro
        275                 280                 285

Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Lys Lys
    290                 295                 300

Leu Gln Asp Arg Ile Tyr Arg
305                 310

<210> 31
<211> 2673
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (5)..(2656)

<400> 31
aaac atg gca ttc tta att ata cta att acc tgc ttt gtg att att ctt   49
     Met Ala Phe Leu Ile Ile Leu Ile Thr Cys Phe Val Ile Ile Leu
       1               5                  10                  15

gct act tca cag cct tgc cag acc cct gat gac ttt gtg gct gcc act    97
Ala Thr Ser Gln Pro Cys Gln Thr Pro Asp Asp Phe Val Ala Ala Thr
                  20                  25                  30

tct ccg gga cat atc ata att gga ggt ttg ttt gct att cat gaa ggt   145
Ser Pro Gly His Ile Ile Ile Gly Gly Leu Phe Ala Ile His Glu Gly
             35                  40                  45

gat aat tct ttt ttt tct ttt tct tgg cag gtt att aac aaa ttc ttt   193
Asp Asn Ser Phe Phe Ser Phe Ser Trp Gln Val Ile Asn Lys Phe Phe
         50                  55                  60

gaa ata tca gtt ttt ctt caa act ctt gcc atg ata cac agc att gag   241
Glu Ile Ser Val Phe Leu Gln Thr Leu Ala Met Ile His Ser Ile Glu
     65                  70                  75

atg atc aac aat tca aca ctc tta cct gga gtc aaa ctg ggg tat gaa   289
Met Ile Asn Asn Ser Thr Leu Leu Pro Gly Val Lys Leu Gly Tyr Glu
 80                  85                  90                  95

atc tat gac act tgt aca gaa gtc aca gtg gca atg gca gcc act ctg   337
Ile Tyr Asp Thr Cys Thr Glu Val Thr Val Ala Met Ala Ala Thr Leu
                100                 105                 110

agg ttt ctt tct aaa ttc aac tgc tcc aga gaa act gtg gag ttt aag   385
```

```
Arg Phe Leu Ser Lys Phe Asn Cys Ser Arg Glu Thr Val Glu Phe Lys
            115                 120                 125

tgt gac tat tcc agc tac atg cca aga gtt aag gct gtc ata ggt tct   433
Cys Asp Tyr Ser Ser Tyr Met Pro Arg Val Lys Ala Val Ile Gly Ser
        130                 135                 140

ggg tac tca gaa ata act atg gct gtc tcc agg atg ttg aat tta cag   481
Gly Tyr Ser Glu Ile Thr Met Ala Val Ser Arg Met Leu Asn Leu Gln
    145                 150                 155

ctc atg cca cag gtg ggt tat gaa tca act gca gaa atc ctg agt gac   529
Leu Met Pro Gln Val Gly Tyr Glu Ser Thr Ala Glu Ile Leu Ser Asp
160                 165                 170                 175

aaa att cgc ttt cct tca ttt tta cgg act gtg ccc agt gac ttc cat   577
Lys Ile Arg Phe Pro Ser Phe Leu Arg Thr Val Pro Ser Asp Phe His
                180                 185                 190

caa att aaa gca atg gct cac ctg att cag aaa tct ggt tgg aac tgg   625
Gln Ile Lys Ala Met Ala His Leu Ile Gln Lys Ser Gly Trp Asn Trp
            195                 200                 205

att ggc atc ata acc aca gat gat gac tat gga cga ttg gct ctt aac   673
Ile Gly Ile Ile Thr Thr Asp Asp Asp Tyr Gly Arg Leu Ala Leu Asn
        210                 215                 220

act ttt ata att cag gct gaa gca aat aac gtg tgc ata gcc ttc aaa   721
Thr Phe Ile Ile Gln Ala Glu Ala Asn Asn Val Cys Ile Ala Phe Lys
    225                 230                 235

gag gtt ctt cca gcc ttt ctt tca gat aat acc att gaa gtc aga atc   769
Glu Val Leu Pro Ala Phe Leu Ser Asp Asn Thr Ile Glu Val Arg Ile
240                 245                 250                 255

aat cgg aca ctg aag aaa atc att tta gaa gcc cag gtt aat gtc att   817
Asn Arg Thr Leu Lys Lys Ile Ile Leu Glu Ala Gln Val Asn Val Ile
                260                 265                 270

gtg gta ttt ctg agg caa ttc cat gtt ttt gat ctc ttc aat aaa gcc   865
Val Val Phe Leu Arg Gln Phe His Val Phe Asp Leu Phe Asn Lys Ala
            275                 280                 285

att gaa atg aat ata aat aag atg tgg att gct agt gat aat tgg tca   913
Ile Glu Met Asn Ile Asn Lys Met Trp Ile Ala Ser Asp Asn Trp Ser
        290                 295                 300

act gcc acc aag att acc acc att cct aat gtt aaa aag att ggc aaa   961
Thr Ala Thr Lys Ile Thr Thr Ile Pro Asn Val Lys Lys Ile Gly Lys
    305                 310                 315

gtt gta ggg ttt gcc ttt aga aga ggg aat ata tcc tct ttc cat tcc   1009
Val Val Gly Phe Ala Phe Arg Arg Gly Asn Ile Ser Ser Phe His Ser
320                 325                 330                 335

ttt ctt caa aat ctg tca gaa gct aaa agc aga aac tcc aag ttc aca   1057
Phe Leu Gln Asn Leu Ser Glu Ala Lys Ser Arg Asn Ser Lys Phe Thr
```

```
                340                 345                 350

tcg gtt ttc ttc agt ttg cct gag ata tca ggc aaa gct tca tgt gtt   1105
Ser Val Phe Phe Ser Leu Pro Glu Ile Ser Gly Lys Ala Ser Cys Val
            355                 360                 365

aaa ata tgc ctt aaa ctc att cat agt att cag ctt gca gtg ttt gcc   1153
Lys Ile Cys Leu Lys Leu Ile His Ser Ile Gln Leu Ala Val Phe Ala
        370                 375                 380

ctt ggt tat gcc att cgg gat ctg tgt caa gct cgt gac tgt cag aac   1201
Leu Gly Tyr Ala Ile Arg Asp Leu Cys Gln Ala Arg Asp Cys Gln Asn
    385                 390                 395

ccc aac gcc ttt caa cca tgg gag tta ctt ggt gtg cta aaa aat gtg   1249
Pro Asn Ala Phe Gln Pro Trp Glu Leu Leu Gly Val Leu Lys Asn Val
400                 405                 410                 415

aca ttc act gat gga tgg aat tca ttt cat ttt gat gct cac ggg gat   1297
Thr Phe Thr Asp Gly Trp Asn Ser Phe His Phe Asp Ala His Gly Asp
                420                 425                 430

tta aat act gga tat gat gtt gtg ctc tgg aag gag atc aat gga cac   1345
Leu Asn Thr Gly Tyr Asp Val Val Leu Trp Lys Glu Ile Asn Gly His
            435                 440                 445

atg act gtc act aag atg gca gaa tat gac cta gca aat tcc gct ttc   1393
Met Thr Val Thr Lys Met Ala Glu Tyr Asp Leu Ala Asn Ser Ala Phe
        450                 455                 460

tca ttc act gca aga aat ttt aaa aat att tcc tac att caa tct aaa   1441
Ser Phe Thr Ala Arg Asn Phe Lys Asn Ile Ser Tyr Ile Gln Ser Lys
    465                 470                 475

tgc tcc aag gaa tgc agt cct ggg caa atg aag aaa act aca aga agt   1489
Cys Ser Lys Glu Cys Ser Pro Gly Gln Met Lys Lys Thr Thr Arg Ser
480                 485                 490                 495

caa cac atc tgt tgc tat gaa tgt cag aac tgt cct gaa aat cat tac   1537
Gln His Ile Cys Cys Tyr Glu Cys Gln Asn Cys Pro Glu Asn His Tyr
                500                 505                 510

act aat cag aca gat atg cct cac tgc ctt tta tgc aac aac aaa act   1585
Thr Asn Gln Thr Asp Met Pro His Cys Leu Leu Cys Asn Asn Lys Thr
            515                 520                 525

cac tgg gcc cct gtt agg agc act atg tgc ttt gaa aag gaa gtg gaa   1633
His Trp Ala Pro Val Arg Ser Thr Met Cys Phe Glu Lys Glu Val Glu
        530                 535                 540

tat ctc aac tgg aat gac tcc ttg gcc atc cta ctc ctg att ctc tcc   1681
Tyr Leu Asn Trp Asn Asp Ser Leu Ala Ile Leu Leu Leu Ile Leu Ser
    545                 550                 555

cta ctg gga atc ata ttt gtt ctg gtt gtt ggc ata ata ttt aca aga   1729
Leu Leu Gly Ile Ile Phe Val Leu Val Val Gly Ile Ile Phe Thr Arg
560                 565                 570                 575
```

```
aac ctg aac aca cct gtt gtg aaa tca tcc ggg gga tta aga gtc tgc   1777
Asn Leu Asn Thr Pro Val Val Lys Ser Ser Gly Gly Leu Arg Val Cys
                580                 585                 590

tat gtg atc ctt ctc tgt cat ttc ctc aat ttt gcc agc acg agc ttt   1825
Tyr Val Ile Leu Leu Cys His Phe Leu Asn Phe Ala Ser Thr Ser Phe
            595                 600                 605

ttc att gga gaa cca caa gac ttc aca tgt aaa acc agg cag aca atg   1873
Phe Ile Gly Glu Pro Gln Asp Phe Thr Cys Lys Thr Arg Gln Thr Met
        610                 615                 620

ttt gga gtg agc ttt act ctt tgc atc tcc tgc att ttg acg aag tct   1921
Phe Gly Val Ser Phe Thr Leu Cys Ile Ser Cys Ile Leu Thr Lys Ser
    625                 630                 635

ctg aaa att ttg cta gcc ttc agc ttt gat ccc aaa tta cag aaa ttt   1969
Leu Lys Ile Leu Leu Ala Phe Ser Phe Asp Pro Lys Leu Gln Lys Phe
640                 645                 650                 655

ctg aag tgc ctc tat aga ccg atc ctt att atc ttc act tgc acg ggc   2017
Leu Lys Cys Leu Tyr Arg Pro Ile Leu Ile Ile Phe Thr Cys Thr Gly
                660                 665                 670

atc cag gtt gtc att tgc aca ctc tgg cta atc ttt gca gca cct act   2065
Ile Gln Val Val Ile Cys Thr Leu Trp Leu Ile Phe Ala Ala Pro Thr
            675                 680                 685

gta gag gtg aat gtc tcc ttg ccc aga gtc atc atc ctg gag tgt gag   2113
Val Glu Val Asn Val Ser Leu Pro Arg Val Ile Ile Leu Glu Cys Glu
        690                 695                 700

gag gga tcc ata ctt gca ttt ggc acc atg ctg ggc tac att gcc atc   2161
Glu Gly Ser Ile Leu Ala Phe Gly Thr Met Leu Gly Tyr Ile Ala Ile
    705                 710                 715

ctg gcc ttc att tgc ttc ata ttt gct ttc aaa ggc aaa tat gag aat   2209
Leu Ala Phe Ile Cys Phe Ile Phe Ala Phe Lys Gly Lys Tyr Glu Asn
720                 725                 730                 735

tac aat gaa gcc aaa ttc att aca ttt ggc atg ctc att tac ttc ata   2257
Tyr Asn Glu Ala Lys Phe Ile Thr Phe Gly Met Leu Ile Tyr Phe Ile
                740                 745                 750

gct tgg atc aca ttc atc cct atc tat gct acc aca ttt ggc aaa tat   2305
Ala Trp Ile Thr Phe Ile Pro Ile Tyr Ala Thr Thr Phe Gly Lys Tyr
            755                 760                 765

gta cca gct gtg gag att att gtc ata tta ata tct aac tat gga atc   2353
Val Pro Ala Val Glu Ile Ile Val Ile Leu Ile Ser Asn Tyr Gly Ile
        770                 775                 780

ctg tat tgc aca ttc atc ccc aaa tgc tat gtt att att tgt aag caa   2401
Leu Tyr Cys Thr Phe Ile Pro Lys Cys Tyr Val Ile Ile Cys Lys Gln
    785                 790                 795
```

```
gag att aac aca aag tct gcc ttt ctc aag atg atc tac agt tat tct   2449
Glu Ile Asn Thr Lys Ser Ala Phe Leu Lys Met Ile Tyr Ser Tyr Ser
800                 805                 810                 815

tcc cat agt gtg agc agc att gcc ctg agt cct gct tca ctg gac tcc   2497
Ser His Ser Val Ser Ser Ile Ala Leu Ser Pro Ala Ser Leu Asp Ser
                820                 825                 830

atg agc ggc aat gtc aca atg acc aat ccc agc tct agt ggc aag tct   2545
Met Ser Gly Asn Val Thr Met Thr Asn Pro Ser Ser Ser Gly Lys Ser
            835                 840                 845

gca acc tgg cag aaa agc aaa gat ctt cag gca caa gca ttt gca cac   2593
Ala Thr Trp Gln Lys Ser Lys Asp Leu Gln Ala Gln Ala Phe Ala His
        850                 855                 860

ata tgc agg gaa aat gcc aca agt gta tct aaa act ttg cct cga aaa   2641
Ile Cys Arg Glu Asn Ala Thr Ser Val Ser Lys Thr Leu Pro Arg Lys
    865                 870                 875

aga atg tca agt ata tgaataagcc ttaggag                           2673
Arg Met Ser Ser Ile
880
```

<210> 32
<211> 884
<212> PRT
<213> Homo sapiens

<400> 32

```
Met Ala Phe Leu Ile Ile Leu Ile Thr Cys Phe Val Ile Ile Leu Ala
  1               5                  10                  15

Thr Ser Gln Pro Cys Gln Thr Pro Asp Asp Phe Val Ala Ala Thr Ser
             20                  25                  30

Pro Gly His Ile Ile Ile Gly Gly Leu Phe Ala Ile His Glu Gly Asp
         35                  40                  45

Asn Ser Phe Phe Ser Phe Ser Trp Gln Val Ile Asn Lys Phe Phe Glu
     50                  55                  60

Ile Ser Val Phe Leu Gln Thr Leu Ala Met Ile His Ser Ile Glu Met
 65                  70                  75                  80

Ile Asn Asn Ser Thr Leu Leu Pro Gly Val Lys Leu Gly Tyr Glu Ile
                 85                  90                  95

Tyr Asp Thr Cys Thr Glu Val Thr Val Ala Met Ala Ala Thr Leu Arg
            100                 105                 110

Phe Leu Ser Lys Phe Asn Cys Ser Arg Glu Thr Val Glu Phe Lys Cys
        115                 120                 125

Asp Tyr Ser Ser Tyr Met Pro Arg Val Lys Ala Val Ile Gly Ser Gly
    130                 135                 140
```

```
Tyr Ser Glu Ile Thr Met Ala Val Ser Arg Met Leu Asn Leu Gln Leu
145                 150                 155                 160

Met Pro Gln Val Gly Tyr Glu Ser Thr Ala Glu Ile Leu Ser Asp Lys
                165                 170                 175

Ile Arg Phe Pro Ser Phe Leu Arg Thr Val Pro Ser Asp Phe His Gln
            180                 185                 190

Ile Lys Ala Met Ala His Leu Ile Gln Lys Ser Gly Trp Asn Trp Ile
        195                 200                 205

Gly Ile Ile Thr Thr Asp Asp Asp Tyr Gly Arg Leu Ala Leu Asn Thr
    210                 215                 220

Phe Ile Ile Gln Ala Glu Ala Asn Asn Val Cys Ile Ala Phe Lys Glu
225                 230                 235                 240

Val Leu Pro Ala Phe Leu Ser Asp Asn Thr Ile Glu Val Arg Ile Asn
                245                 250                 255

Arg Thr Leu Lys Lys Ile Ile Leu Glu Ala Gln Val Asn Val Ile Val
            260                 265                 270

Val Phe Leu Arg Gln Phe His Val Phe Asp Leu Phe Asn Lys Ala Ile
        275                 280                 285

Glu Met Asn Ile Asn Lys Met Trp Ile Ala Ser Asp Asn Trp Ser Thr
    290                 295                 300

Ala Thr Lys Ile Thr Thr Ile Pro Asn Val Lys Lys Ile Gly Lys Val
305                 310                 315                 320

Val Gly Phe Ala Phe Arg Arg Gly Asn Ile Ser Ser Phe His Ser Phe
                325                 330                 335

Leu Gln Asn Leu Ser Glu Ala Lys Ser Arg Asn Ser Lys Phe Thr Ser
            340                 345                 350

Val Phe Phe Ser Leu Pro Glu Ile Ser Gly Lys Ala Ser Cys Val Lys
        355                 360                 365

Ile Cys Leu Lys Leu Ile His Ser Ile Gln Leu Ala Val Phe Ala Leu
    370                 375                 380

Gly Tyr Ala Ile Arg Asp Leu Cys Gln Ala Arg Asp Cys Gln Asn Pro
385                 390                 395                 400

Asn Ala Phe Gln Pro Trp Glu Leu Leu Gly Val Leu Lys Asn Val Thr
                405                 410                 415

Phe Thr Asp Gly Trp Asn Ser Phe His Phe Asp Ala His Gly Asp Leu
            420                 425                 430

Asn Thr Gly Tyr Asp Val Val Leu Trp Lys Glu Ile Asn Gly His Met
        435                 440                 445
```

```
Thr Val Thr Lys Met Ala Glu Tyr Asp Leu Ala Asn Ser Ala Phe Ser
    450                 455                 460

Phe Thr Ala Arg Asn Phe Lys Asn Ile Ser Tyr Ile Gln Ser Lys Cys
465                 470                 475                 480

Ser Lys Glu Cys Ser Pro Gly Gln Met Lys Lys Thr Thr Arg Ser Gln
                485                 490                 495

His Ile Cys Cys Tyr Glu Cys Gln Asn Cys Pro Glu Asn His Tyr Thr
            500                 505                 510

Asn Gln Thr Asp Met Pro His Cys Leu Leu Cys Asn Asn Lys Thr His
        515                 520                 525

Trp Ala Pro Val Arg Ser Thr Met Cys Phe Glu Lys Glu Val Glu Tyr
    530                 535                 540

Leu Asn Trp Asn Asp Ser Leu Ala Ile Leu Leu Leu Ile Leu Ser Leu
545                 550                 555                 560

Leu Gly Ile Ile Phe Val Leu Val Val Gly Ile Ile Phe Thr Arg Asn
                565                 570                 575

Leu Asn Thr Pro Val Val Lys Ser Ser Gly Gly Leu Arg Val Cys Tyr
            580                 585                 590

Val Ile Leu Leu Cys His Phe Leu Asn Phe Ala Ser Thr Ser Phe Phe
        595                 600                 605

Ile Gly Glu Pro Gln Asp Phe Thr Cys Lys Thr Arg Gln Thr Met Phe
    610                 615                 620

Gly Val Ser Phe Thr Leu Cys Ile Ser Cys Ile Leu Thr Lys Ser Leu
625                 630                 635                 640

Lys Ile Leu Leu Ala Phe Ser Phe Asp Pro Lys Leu Gln Lys Phe Leu
                645                 650                 655

Lys Cys Leu Tyr Arg Pro Ile Leu Ile Ile Phe Thr Cys Thr Gly Ile
            660                 665                 670

Gln Val Val Ile Cys Thr Leu Trp Leu Ile Phe Ala Ala Pro Thr Val
        675                 680                 685

Glu Val Asn Val Ser Leu Pro Arg Val Ile Ile Leu Glu Cys Glu Glu
    690                 695                 700

Gly Ser Ile Leu Ala Phe Gly Thr Met Leu Gly Tyr Ile Ala Ile Leu
705                 710                 715                 720

Ala Phe Ile Cys Phe Ile Phe Ala Phe Lys Gly Lys Tyr Glu Asn Tyr
                725                 730                 735

Asn Glu Ala Lys Phe Ile Thr Phe Gly Met Leu Ile Tyr Phe Ile Ala
            740                 745                 750
```

```
Trp Ile Thr Phe Ile Pro Ile Tyr Ala Thr Thr Phe Gly Lys Tyr Val
        755                 760                 765

Pro Ala Val Glu Ile Ile Val Ile Leu Ile Ser Asn Tyr Gly Ile Leu
    770                 775                 780

Tyr Cys Thr Phe Ile Pro Lys Cys Tyr Val Ile Ile Cys Lys Gln Glu
785                 790                 795                 800

Ile Asn Thr Lys Ser Ala Phe Leu Lys Met Ile Tyr Ser Tyr Ser Ser
                805                 810                 815

His Ser Val Ser Ser Ile Ala Leu Ser Pro Ala Ser Leu Asp Ser Met
            820                 825                 830

Ser Gly Asn Val Thr Met Thr Asn Pro Ser Ser Ser Gly Lys Ser Ala
        835                 840                 845

Thr Trp Gln Lys Ser Lys Asp Leu Gln Ala Gln Ala Phe Ala His Ile
    850                 855                 860

Cys Arg Glu Asn Ala Thr Ser Val Ser Lys Thr Leu Pro Arg Lys Arg
865                 870                 875                 880

Met Ser Ser Ile
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<210> 33
<211> 1104
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(1080)

<400> 33

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atg ata aaa cta ggc cct tac ttc aca cca ccc aca aaa ata aaa act    48
Met Ile Lys Leu Gly Pro Tyr Phe Thr Pro Pro Thr Lys Ile Lys Thr
  1               5                  10                  15

aag att aaa gat tta aat gtg gaa agc caa act gtg aaa att ttt ttg    96
Lys Ile Lys Asp Leu Asn Val Glu Ser Gln Thr Val Lys Ile Phe Leu
             20                  25                  30

cgc tct ctg ttc tac aca gcc ctc ctg gtc ttc agt gcc ctg gga aac   144
Arg Ser Leu Phe Tyr Thr Ala Leu Leu Val Phe Ser Ala Leu Gly Asn
         35                  40                  45

atc ctt gcc ctt tgc ctt acc tgt caa aag agc agg aag atc aac tgc   192
Ile Leu Ala Leu Cys Leu Thr Cys Gln Lys Ser Arg Lys Ile Asn Cys
     50                  55                  60

aca ggc atc tac ctg gtg cac ctg gct gtg tct gac ctg ctg ttc acc   240
Thr Gly Ile Tyr Leu Val His Leu Ala Val Ser Asp Leu Leu Phe Thr
 65                  70                  75                  80
```

```
gtg gcc tta ccg gga agg gtg gtg tgt tat gtg ctg ggc tcc agc tgg   288
Val Ala Leu Pro Gly Arg Val Val Cys Tyr Val Leu Gly Ser Ser Trp
                 85                  90                  95

cct ttc ggc aag ggg ctc tgc agg ctg acg gcg ttt gtg ctc tac acc   336
Pro Phe Gly Lys Gly Leu Cys Arg Leu Thr Ala Phe Val Leu Tyr Thr
            100                 105                 110

gac acc tac ggg ggg gtc tac ctc atg gcc tgt gtg agc gtg gac cat   384
Asp Thr Tyr Gly Gly Val Tyr Leu Met Ala Cys Val Ser Val Asp His
        115                 120                 125

tac cca gct gtg gtc tgt gcc cac tgg ggc ccg cgc ctc cgc acg gct   432
Tyr Pro Ala Val Val Cys Ala His Trp Gly Pro Arg Leu Arg Thr Ala
    130                 135                 140

ggc cgc gcc agg ctg gtc tgc gtg gcc atc tgg acc ttg gtg ctg ctg   480
Gly Arg Ala Arg Leu Val Cys Val Ala Ile Trp Thr Leu Val Leu Leu
145                 150                 155                 160

cag acg atg ccc ttg ctc ttg atg ccc atg acc aag ccg ctg gtg ggc   528
Gln Thr Met Pro Leu Leu Leu Met Pro Met Thr Lys Pro Leu Val Gly
                165                 170                 175

aag ctg gcc tgc atg gag tac agc agc atg gag tca gtc ctc ggg ctg   576
Lys Leu Ala Cys Met Glu Tyr Ser Ser Met Glu Ser Val Leu Gly Leu
            180                 185                 190

ccc ctc atg gtc ctg gtg gcc ttt gcc att ggc ttc tgt ggg cca gtg   624
Pro Leu Met Val Leu Val Ala Phe Ala Ile Gly Phe Cys Gly Pro Val
        195                 200                 205

ggg atc atc ctg tcc tgc tat atg aag atc acc tgg aag ctg tgc agc   672
Gly Ile Ile Leu Ser Cys Tyr Met Lys Ile Thr Trp Lys Leu Cys Ser
    210                 215                 220

aca gct cgg gag gac cca gtg acc agc agg aaa gga cgc cac tgg cga   720
Thr Ala Arg Glu Asp Pro Val Thr Ser Arg Lys Gly Arg His Trp Arg
225                 230                 235                 240

ggc tgc ctg ctt acg ctg ctg atg ctg gtg gcc gtg gtg gtc tgc ttc   768
Gly Cys Leu Leu Thr Leu Leu Met Leu Val Ala Val Val Val Cys Phe
                245                 250                 255

agc ccc tac cac ctc aac atc aag cag ttc atg gcg aga ggg atg ctc   816
Ser Pro Tyr His Leu Asn Ile Lys Gln Phe Met Ala Arg Gly Met Leu
            260                 265                 270

cac ctg cca tcc tgt gcc gag cgg agg gct ttc tta ctg tcc ctt cag   864
His Leu Pro Ser Cys Ala Glu Arg Arg Ala Phe Leu Leu Ser Leu Gln
        275                 280                 285

gcc acc gtg gcc ctc atg aac atg aac tgt ggc att acc cca atc att   912
Ala Thr Val Ala Leu Met Asn Met Asn Cys Gly Ile Thr Pro Ile Ile
    290                 295                 300

tac ttc ttt gca tcc acc cat tac agg aaa tgg ctc ctg ggc att tta   960
```

```
Tyr Phe Phe Ala Ser Thr His Tyr Arg Lys Trp Leu Leu Gly Ile Leu
305                 310                 315                 320

aag ctc aaa ggg tct tcc tcc tcc tcc tcc tcc tcc tcc tcc acc cca   1008
Lys Leu Lys Gly Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Thr Pro
                325                 330                 335

gga aaa gct tct tca gaa aca cca agt atc acc cag gcc aga ggt tct   1056
Gly Lys Ala Ser Ser Glu Thr Pro Ser Ile Thr Gln Ala Arg Gly Ser
            340                 345                 350

atg ttc tta gcg gag cac gtg gtc taacgtgtca tttgctttat gact        1104
Met Phe Leu Ala Glu His Val Val
        355                 360

<210> 34
<211> 360
<212> PRT
<213> Homo sapiens

<400> 34
Met Ile Lys Leu Gly Pro Tyr Phe Thr Pro Pro Thr Lys Ile Lys Thr
  1               5                  10                  15

Lys Ile Lys Asp Leu Asn Val Glu Ser Gln Thr Val Lys Ile Phe Leu
             20                  25                  30

Arg Ser Leu Phe Tyr Thr Ala Leu Leu Val Phe Ser Ala Leu Gly Asn
         35                  40                  45

Ile Leu Ala Leu Cys Leu Thr Cys Gln Lys Ser Arg Lys Ile Asn Cys
     50                  55                  60

Thr Gly Ile Tyr Leu Val His Leu Ala Val Ser Asp Leu Leu Phe Thr
 65                  70                  75                  80

Val Ala Leu Pro Gly Arg Val Val Cys Tyr Val Leu Gly Ser Ser Trp
                 85                  90                  95

Pro Phe Gly Lys Gly Leu Cys Arg Leu Thr Ala Phe Val Leu Tyr Thr
            100                 105                 110

Asp Thr Tyr Gly Gly Val Tyr Leu Met Ala Cys Val Ser Val Asp His
        115                 120                 125

Tyr Pro Ala Val Val Cys Ala His Trp Gly Pro Arg Leu Arg Thr Ala
    130                 135                 140

Gly Arg Ala Arg Leu Val Cys Val Ala Ile Trp Thr Leu Val Leu Leu
145                 150                 155                 160

Gln Thr Met Pro Leu Leu Leu Met Pro Met Thr Lys Pro Leu Val Gly
                165                 170                 175

Lys Leu Ala Cys Met Glu Tyr Ser Ser Met Glu Ser Val Leu Gly Leu
            180                 185                 190
```

```
Pro Leu Met Val Leu Val Ala Phe Ala Ile Gly Phe Cys Gly Pro Val
        195                 200                 205

Gly Ile Ile Leu Ser Cys Tyr Met Lys Ile Thr Trp Lys Leu Cys Ser
    210                 215                 220

Thr Ala Arg Glu Asp Pro Val Thr Ser Arg Lys Gly Arg His Trp Arg
225                 230                 235                 240

Gly Cys Leu Leu Thr Leu Leu Met Leu Val Ala Val Val Val Cys Phe
                245                 250                 255

Ser Pro Tyr His Leu Asn Ile Lys Gln Phe Met Ala Arg Gly Met Leu
            260                 265                 270

His Leu Pro Ser Cys Ala Glu Arg Arg Ala Phe Leu Leu Ser Leu Gln
        275                 280                 285

Ala Thr Val Ala Leu Met Asn Met Asn Cys Gly Ile Thr Pro Ile Ile
    290                 295                 300

Tyr Phe Phe Ala Ser Thr His Tyr Arg Lys Trp Leu Leu Gly Ile Leu
305                 310                 315                 320

Lys Leu Lys Gly Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Thr Pro
                325                 330                 335

Gly Lys Ala Ser Ser Glu Thr Pro Ser Ile Thr Gln Ala Arg Gly Ser
            340                 345                 350

Met Phe Leu Ala Glu His Val Val
        355                 360
```

<210> 35
<211> 214
<212> PRT
<213> Homo sapiens

<400> 35

```
Leu Ile Asp Leu Ser Leu Ser Ser Val Thr Ala Pro Lys Met Ile Thr
  1               5                  10                  15

Asp Phe Phe Ser Gln Arg Lys Val Ile Ser Phe Lys Gly Cys Leu Val
             20                  25                  30

Gln Ile Phe Leu Leu His Phe Phe Gly Gly Ser Glu Met Val Ile Leu
         35                  40                  45

Ile Ala Met Gly Phe Asp Arg Tyr Ile Ala Ile Cys Lys Pro Leu His
     50                  55                  60

Tyr Thr Thr Ile Met Cys Gly Asn Ala Cys Val Gly Ile Met Ala Val
 65                  70                  75                  80

Ala Trp Gly Ile Gly Phe Leu His Ser Val Ser Gln Leu Ala Phe Ala
                 85                  90                  95
```

```
Val His Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser Phe Tyr Cys
            100                 105                 110

Asp Leu Pro Arg Val Ile Lys Leu Ala Cys Thr Asp Thr Tyr Arg Leu
        115                 120                 125

Asp Ile Met Val Ile Ala Asn Ser Gly Val Leu Thr Val Cys Ser Phe
    130                 135                 140

Val Leu Leu Ile Ile Ser Tyr Thr Ile Ile Leu Met Thr Ile Gln His
145                 150                 155                 160

Cys Pro Leu Asp Lys Ser Ser Lys Ala Leu Ser Thr Leu Thr Ala His
                165                 170                 175

Ile Thr Val Val Leu Leu Phe Phe Gly Pro Cys Val Phe Ile Tyr Ala
            180                 185                 190

Trp Pro Phe Pro Ile Lys Ser Leu Asp Lys Phe Leu Ala Val Phe Tyr
        195                 200                 205

Ser Val Ile Thr Pro Leu
    210
```

<210> 36
<211> 311
<212> PRT
<213> Homo sapiens

<400> 36

```
Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly
  1               5                  10                  15

Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser
             20                  25                  30

Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile
         35                  40                  45

Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser
     50                  55                  60

Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys
 65                  70                  75                  80

Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly
                 85                  90                  95

Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met
            100                 105                 110

Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys
        115                 120                 125

Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe
    130                 135                 140
```

```
Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu
145                 150                 155                 160

Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser
                165                 170                 175

Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr
            180                 185                 190

Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu
        195                 200                 205

Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly
    210                 215                 220

Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu
225                 230                 235                 240

Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr
                245                 250                 255

Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser
            260                 265                 270

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser
        275                 280                 285

Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn Arg
    290                 295                 300

His Val Asn Ser Trp Lys Asn
305                 310
```

<210> 37
<211> 311
<212> PRT
<213> Homo sapiens

<400> 37

```
Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly
  1               5                  10                  15

Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser
             20                  25                  30

Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile
         35                  40                  45

Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser
     50                  55                  60

Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys
 65                  70                  75                  80

Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly
                 85                  90                  95
```

```
Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met
            100                 105                 110

Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys
        115                 120                 125

Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe
    130                 135                 140

Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu
145                 150                 155                 160

Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser
                165                 170                 175

Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr
            180                 185                 190

Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu
        195                 200                 205

Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly
    210                 215                 220

Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu
225                 230                 235                 240

Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr
                245                 250                 255

Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser
            260                 265                 270

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser
        275                 280                 285

Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn His
    290                 295                 300

His Val Asn Ser Trp Lys Asn
305                 310
```

<210> 38
<211> 312
<212> PRT
<213> Homo sapiens

<400> 38

```
Met Asp Gly Glu Asn His Ser Val Val Ser Glu Phe Leu Phe Leu Gly
  1               5                  10                  15

Leu Thr His Ser Trp Glu Ile Gln Leu Leu Leu Leu Val Phe Ser Ser
             20                  25                  30

Val Leu Tyr Val Ala Ser Ile Thr Gly Asn Ile Leu Ile Val Phe Ser
         35                  40                  45
```

```
Val Thr Thr Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala
     50                  55                  60

Ser Leu Ser Phe Ile Asp Leu Gly Ala Cys Ser Val Thr Ser Pro Lys
 65                  70                  75                  80

Met Ile Tyr Asp Leu Phe Arg Lys Arg Lys Val Ile Ser Phe Gly Gly
                 85                  90                  95

Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met
            100                 105                 110

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Leu Cys Lys
        115                 120                 125

Pro Leu His Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Ser Phe
    130                 135                 140

Leu Ala Val Ala Trp Thr Leu Gly Val Ser His Ser Leu Phe Gln Leu
145                 150                 155                 160

Ala Phe Leu Val Asn Leu Ala Phe Cys Gly Pro Asn Val Leu Asp Ser
                165                 170                 175

Phe Tyr Cys Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asp Thr
            180                 185                 190

Tyr Arg Leu Gln Phe Met Val Thr Val Asn Ser Gly Phe Ile Cys Val
        195                 200                 205

Gly Thr Phe Phe Ile Leu Leu Ile Ser Tyr Val Phe Ile Leu Phe Thr
    210                 215                 220

Val Trp Lys His Ser Ser Gly Gly Ser Ser Lys Ala Leu Ser Thr Leu
225                 230                 235                 240

Ser Ala His Ser Thr Val Val Leu Leu Phe Phe Gly Pro Pro Met Phe
                245                 250                 255

Val Tyr Thr Arg Pro His Pro Asn Ser Gln Met Asp Lys Phe Leu Ala
            260                 265                 270

Ile Phe Asp Ala Val Leu Thr Pro Phe Leu Asn Pro Val Val Tyr Thr
        275                 280                 285

Phe Arg Asn Lys Glu Met Lys Ala Ala Ile Lys Arg Val Cys Lys Gln
    290                 295                 300

Leu Val Ile Tyr Lys Arg Ile Ser
305                 310

<210> 39
<211> 324
<212> PRT
<213> Homo sapiens

<400> 39
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```
Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly
  1               5                  10                  15

Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser
             20                  25                  30

Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
         35                  40                  45

Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
     50                  55                  60

Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys
 65                  70                  75                  80

Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala
                 85                  90                  95

Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
            100                 105                 110

Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
        115                 120                 125

Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu
    130                 135                 140

Val Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu
145                 150                 155                 160

Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser
                165                 170                 175

Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr
            180                 185                 190

Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu
        195                 200                 205

Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr
    210                 215                 220

Val Arg Asn Arg Ser Ser Ala Ser Met Ala Lys Ala Arg Ser Thr Leu
225                 230                 235                 240

Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe
                245                 250                 255

Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala
            260                 265                 270

Val Phe Tyr Thr Ile Phe Thr Leu Ile Leu Asn Pro Val Ile Tyr Thr
        275                 280                 285

Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg
    290                 295                 300
```

```
Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe
305                 310                 315                 320

Leu Glu Thr Lys


<210> 40
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence:  Domain

<400> 40
Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
  1               5                  10                  15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
             20                  25                  30

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
         35                  40                  45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
     50                  55                  60

Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
 65                  70                  75                  80

Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
                 85                  90                  95

Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
            100                 105                 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
        115                 120                 125

Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
    130                 135                 140

Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
145                 150                 155                 160

Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
                165                 170                 175

Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
            180                 185                 190

Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
        195                 200                 205

Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
    210                 215                 220
```

```
Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
225                 230                 235                 240

Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
                245                 250

<210> 41
<211> 93
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence:  Signature Domain

<400> 41
Gly Ser Thr Ala Leu Ile Val Met Phe Tyr Trp Cys Gly Ser Thr Ala
 1               5                  10                  15

Asn Cys Pro Asp Glu Glu Asp Pro Lys Arg His Glu Asp Pro Lys Arg
             20                  25                  30

His Leu Ile Val Met Asn Gln Gly Ala Leu Ile Val Met Asn Gln Gly
         35                  40                  45

Ala Leu Ile Val Met Phe Thr Gly Ser Thr Ala Asn Cys Leu Ile Val
     50                  55                  60

Met Phe Tyr Trp Ser Thr Ala Cys Asp Glu Asn His Arg Phe Tyr Trp
 65                  70                  75                  80

Cys Ser His Phe Tyr Trp Cys Ser His Leu Ile Val Met
                85                  90

<210> 42
<211> 307
<212> PRT
<213> Rattus norvegicus

<400> 42
Met Gly Glu Asn Asn Asn Ile Thr Glu Phe Ile Leu Leu Gly Leu Thr
  1               5                  10                  15

Gln Asp Pro Asp Gly Arg Lys Ala Leu Phe Val Ile Phe Phe Leu Ile
             20                  25                  30

Tyr Ile Val Thr Met Met Gly Asn Leu Leu Ile Val Val Thr Val Ile
         35                  40                  45

Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Ser Leu
     50                  55                  60

Ser Leu Leu Asp Ala Leu Phe Ser Thr Ala Ile Ser Pro Lys Leu Ile
 65                  70                  75                  80

Ala Asp Leu Leu Tyr Asp Gln Lys Thr Ile Ser Phe Arg Ala Cys Met
                85                  90                  95
```

```
Ser Gln Leu Phe Ile Glu His Leu Phe Gly Gly Val Asp Ile Val Ile
            100                 105                 110

Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
        115                 120                 125

His Tyr Leu Ala Ile Met Asn Arg Arg Val Cys Ile Thr Leu Leu Ile
    130                 135                 140

Phe Ala Trp Thr Gly Gly Phe Thr His Ser Leu Ile Gln Ile Val Phe
145                 150                 155                 160

Val Tyr Asn Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Ile
                165                 170                 175

Cys Asp Met Ser Pro Leu Leu Val Leu Ala Cys Thr Asp Thr Tyr Phe
            180                 185                 190

Ile Gly Leu Thr Val Ile Ala Asn Gly Gly Val Asn Cys Ile Val Ile
        195                 200                 205

Phe Thr Leu Leu Leu Gly Ser Tyr Gly Ile Ile Leu Arg Ser Leu Lys
    210                 215                 220

Thr Gln Ser Gln Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Ser Ser
225                 230                 235                 240

His Ile Leu Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Met Tyr
                245                 250                 255

Ala Arg Pro Val Tyr Asn Phe Pro Ile Asp Lys Cys Ile Thr Val Phe
            260                 265                 270

Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg
        275                 280                 285

Asn Ser Glu Ile Lys Ser Cys Met Lys Lys Leu Trp Cys Lys Met Leu
    290                 295                 300

His Ala Asp
305

<210> 43
<211> 722
<212> PRT
<213> Homo sapiens

<400> 43
Met Val Gly Asn Leu Leu Ile Trp Val Thr Thr Ile Gly Ser Pro Ser
  1               5                  10                  15

Leu Gly Ser Leu Met Tyr Phe Phe Leu Ala Tyr Leu Ser Leu Met Asp
             20                  25                  30

Ala Ile Tyr Ser Thr Ala Met Ser Pro Lys Leu Met Ile Asp Leu Leu
         35                  40                  45
```

```
Cys Asp Lys Ile Ala Ile Ser Leu Ser Ala Cys Met Gly Gln Leu Phe
     50                  55                  60

Ile Glu His Leu Leu Gly Gly Ala Glu Val Phe Leu Leu Val Val Met
 65                  70                  75                  80

Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro Leu His Tyr Leu Asn
                 85                  90                  95

Ile Met Asn Arg Leu Val Cys Ile Leu Leu Leu Val Val Ala Met Ile
            100                 105                 110

Gly Gly Phe Val His Ser Val Val Gln Ile Val Phe Leu Tyr Ser Leu
        115                 120                 125

Pro Ile Cys Gly Pro Asn Val Ile Asp His Ser Val Cys Asp Met Tyr
    130                 135                 140

Pro Leu Leu Glu Leu Leu Cys Leu Asp Thr Tyr Phe Ile Gly Leu Thr
145                 150                 155                 160

Val Val Ala Asn Gly Gly Ile Ile Tyr Asp Thr Val Ile Glu Pro Ser
                165                 170                 175

Ala Ala Tyr Phe Val Ile Leu Ser Cys Gln Val Leu Pro Asp Tyr Asp
            180                 185                 190

Glu Ser Cys Glu Ile Ser Glu Val Tyr Lys Tyr Glu Pro Ile Ala Leu
        195                 200                 205

Leu Gln Gly Ser His Leu Leu Gly Pro Lys Lys Lys Leu His Lys Pro
    210                 215                 220

Gly Phe Gly Thr Ser Asp Gln Gly Gly Asp Arg Lys Pro Arg Leu Arg
225                 230                 235                 240

His Leu Ser Pro Thr Pro Ser Glu Glu His Met Lys Asn Lys Asn Asn
                245                 250                 255

Val Thr Glu Phe Ile Leu Leu Gly Leu Thr Gln Asn Pro Glu Gly Gln
            260                 265                 270

Lys Val Leu Phe Val Thr Phe Leu Leu Ile Tyr Met Val Thr Ile Met
        275                 280                 285

Gly Asn Leu Leu Ile Ile Val Thr Ile Met Ala Ser Gln Ser Leu Gly
    290                 295                 300

Ser Pro Met Tyr Phe Phe Leu Ala Ser Leu Ser Phe Ile Asp Thr Val
305                 310                 315                 320

Tyr Ser Thr Ala Phe Ala Pro Lys Met Ile Val Asp Leu Leu Ser Glu
                325                 330                 335

Lys Lys Thr Ile Ser Phe Gln Gly Cys Met Ala Gln Leu Phe Met Asp
            340                 345                 350
```

```
His Leu Phe Ala Gly Ala Glu Val Ile Leu Leu Val Val Met Ala Tyr
        355                 360                 365

Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His Glu Leu Ile Thr Met
    370                 375                 380

Asn Arg Arg Val Cys Val Leu Met Leu Leu Ala Ala Trp Ile Gly Gly
385                 390                 395                 400

Phe Leu His Ser Leu Val Gln Phe Leu Phe Ile Tyr Gln Leu Pro Phe
                405                 410                 415

Cys Gly Pro Asn Val Ile Asp Asn Phe Leu Cys Asp Leu Tyr Pro Leu
            420                 425                 430

Leu Lys Leu Ala Cys Thr Asn Thr Tyr Val Thr Gly Leu Ser Met Ile
        435                 440                 445

Ala Asn Gly Gly Ala Ile Cys Ala Val Thr Phe Phe Thr Ile Leu Leu
    450                 455                 460

Ser Tyr Gly Val Ile Leu His Ser Leu Lys Thr Gln Ser Leu Glu Gly
465                 470                 475                 480

Lys Arg Lys Ala Phe Tyr Thr Cys Ala Ser His Val Thr Val Val Ile
                485                 490                 495

Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr Ala Arg Pro Asn Ser Thr
            500                 505                 510

Phe Pro Ile Asp Lys Ser Met Thr Val Val Leu Thr Phe Ile Thr Pro
        515                 520                 525

Met Leu Asn Pro Leu Ile Tyr Thr Leu Lys Asn Ala Glu Met Lys Ser
    530                 535                 540

Ala Met Arg Lys Leu Trp Ser Lys Lys Asp Pro Gly Met Gln Lys Glu
545                 550                 555                 560

Leu Phe Val Met Phe Leu Phe Thr Tyr Val Val Thr Val Leu Gly Asn
                565                 570                 575

Gln Leu Ile Val Val Thr Ile Ile Ala Ser Pro Ser Leu Gly Ser Pro
            580                 585                 590

Met Tyr Phe Phe Leu Ala Cys Leu Ser Phe Ile Asp Ala Ala Tyr Phe
        595                 600                 605

Thr Val Ile Ser Pro Lys Leu Ile Val Asp Leu Leu Cys Asp Lys Lys
    610                 615                 620

Thr Ile Ser Phe Gln Thr Phe Met Gly Gln Leu Phe Ile Asp His Phe
625                 630                 635                 640

Phe Gly Gly Ala Glu Ala Phe Leu Leu Val Val Met Ala Tyr Asp Arg
                645                 650                 655
```

```
Tyr Val Ala Ile Cys Lys Thr Leu His Tyr Leu Thr Ile Met Thr Arg
            660                 665                 670

Gln Val Cys Ile Leu Ala Leu Leu Val Ala Ala Thr Gly Gly Phe Val
        675                 680                 685

His Ser Val Phe Gln Ile Val Val Val Tyr Ser Leu Pro Phe Cys Gly
    690                 695                 700

Ala Asn Val Ile Asp His Phe Ser Cys Asp Met Tyr Pro Leu Leu Glu
705                 710                 715                 720

Leu Ala
```

<210> 44
<211> 316
<212> PRT
<213> Homo sapiens

<400> 44

```
Met Gln Asn Gln Ser Phe Val Thr Glu Phe Val Leu Leu Gly Leu Ser
  1               5                  10                  15

Gln Asn Pro Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val
             20                  25                  30

Tyr Ile Ala Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu
         35                  40                  45

Ser Ser Pro Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe
     50                  55                  60

Leu Ser Phe Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met
 65                  70                  75                  80

Ile Val Asp Ser Leu Tyr Val Thr Lys Thr Ile Ser Phe Glu Gly Cys
                 85                  90                  95

Met Met Gln Leu Phe Ala Glu His Phe Phe Ala Gly Val Glu Val Ile
            100                 105                 110

Val Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro
        115                 120                 125

Leu His Tyr Ser Ser Ile Met Asn Arg Arg Leu Cys Gly Ile Leu Met
    130                 135                 140

Gly Val Ala Trp Thr Gly Gly Leu Leu His Ser Met Ile Gln Ile Leu
145                 150                 155                 160

Phe Thr Phe Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe
                165                 170                 175

Met Cys Asp Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr His
            180                 185                 190
```

```
Ile Phe Gly Leu Met Val Val Ile Asn Ser Gly Phe Ile Cys Ile Ile
        195                 200                 205

Asn Phe Ser Leu Leu Leu Val Ser Tyr Ala Val Ile Leu Leu Ser Leu
    210                 215                 220

Arg Thr His Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly
225                 230                 235                 240

Ser His Ile Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val
                245                 250                 255

Tyr Thr Arg Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile
            260                 265                 270

Phe Tyr Ile Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe
        275                 280                 285

Arg Asn Lys Glu Val Lys Gln Ala Met Arg Arg Ile Trp Asn Arg Leu
    290                 295                 300

Met Val Val Ser Asp Glu Lys Glu Asn Ile Lys Leu
305                 310                 315
```

<210> 45
<211> 308
<212> PRT
<213> Mus musculus

<400> 45

```
Met Glu Ile Pro His Asn Ile Thr Glu Phe Phe Met Leu Gly Leu Ser
  1               5                  10                  15

Gln Arg Pro Glu Ile Gln Arg Leu Leu Phe Val Val Phe Leu Val Ile
             20                  25                  30

Tyr Ala Val Thr Val Cys Gly Asn Met Leu Ile Val Val Thr Val Thr
         35                  40                  45

Phe Ser Ser Ser Leu Ala Ser Pro Met Tyr Phe Phe Leu Ser Asn Leu
     50                  55                  60

Ser Phe Ile Asp Thr Cys Tyr Ser Ser Ser Leu Ala Pro Lys Leu Ile
 65                  70                  75                  80

Ala Asp Ser Leu Tyr Glu Gly Thr Thr Leu Ser Tyr Glu Gly Cys Met
                 85                  90                  95

Ala Gln Leu Phe Gly Ala His Phe Leu Gly Gly Val Glu Ile Ile Leu
            100                 105                 110

Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
        115                 120                 125

His Tyr Thr Thr Thr Met Thr Arg His Leu Cys Val Val Leu Val Ala
    130                 135                 140
```

```
Val Ala Trp Leu Gly Gly Phe Leu His Ser Leu Val Gln Ile Leu Leu
145                 150                 155                 160

Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe Val
                165                 170                 175

Cys Asp Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asn Thr Tyr Val
            180                 185                 190

Ile Gly Leu Leu Val Val Ala Asn Ser Gly Val Ile Cys Leu Leu Asn
        195                 200                 205

Phe Leu Met Leu Ala Ala Ser Tyr Ile Val Ile Leu His Ser Leu Arg
    210                 215                 220

Ser His Ser Ala Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Gly Ala
225                 230                 235                 240

His Phe Thr Val Val Thr Met Phe Phe Val Pro Cys Ile Phe Ser Tyr
                245                 250                 255

Met Arg Pro Ser Thr Thr Leu Pro Ile Asp Lys Asn Met Ala Val Phe
            260                 265                 270

Tyr Gly Ile Leu Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg
        275                 280                 285

Asn Glu Glu Val Lys Asp Ala Met Arg Lys Leu Phe Thr Arg Ser Glu
    290                 295                 300

Val Val Gly Ala
305
```

<210> 46
<211> 277
<212> PRT
<213> Homo sapiens

<400> 46

```
Met Gly Asn Leu Leu Ile Met Val Thr Ile Met Ala Ser Gln Ser Leu
  1               5                  10                  15

Gly Ser Pro Met Tyr Phe Phe Leu Ala Ser Leu Ser Phe Ile His Thr
             20                  25                  30

Val Tyr Tyr Thr Ala Ile Ala Pro Lys Met Ile Val Asp Leu Leu Ser
         35                  40                  45

Glu Lys Lys Thr Ile Ser Phe Gln Gly Cys Met Ala Gln Leu Phe Met
     50                  55                  60

Asp His Leu Phe Ala Gly Ala Glu Val Ile Leu Leu Val Val Met Ala
 65                  70                  75                  80

Tyr Asp Gln Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Ile Ile
                 85                  90                  95
```

```
Met Asn Arg Arg Val Cys Val Leu Met Leu Leu Val Ala Trp Ile Gly
            100                 105                 110

Gly Phe Leu His Ser Leu Val Gln Phe Leu Phe Ile Tyr Gln Leu Pro
        115                 120                 125

Phe Cys Gly Pro Asn Val Ile Asp Asn Phe Leu Cys Asp Leu Tyr Pro
    130                 135                 140

Leu Leu Lys Leu Ala Cys Thr Asn Thr Tyr Val Thr Gly Leu Ser Met
145                 150                 155                 160

Ile Ala Asn Gly Gly Ala Ile Cys Thr Val Thr Phe Phe Pro Leu Leu
                165                 170                 175

Leu Ser Tyr Gly Val Ile Leu Pro Ser Leu Lys Thr Gln Ser Leu Glu
            180                 185                 190

Gly Lys Cys Lys Ala Phe Tyr Thr Cys Ala Ser His Ile Thr Val Ile
        195                 200                 205

Thr Leu Phe Phe Val Pro Cys Ile Phe Leu Phe Ala Arg Pro Asn Ser
    210                 215                 220

Thr Phe Pro Ile Asp Lys Ser Met Thr Val Val Leu Thr Cys Ile Thr
225                 230                 235                 240

Pro Met Leu Lys Pro Leu Ile Tyr Ala Leu Arg Asn Ala Glu Met Lys
                245                 250                 255

Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Val Ser Leu Ala Gly Lys
            260                 265                 270

Gly Leu Tyr Pro Ser
        275

<210> 47
<211> 312
<212> PRT
<213> Homo sapiens

<400> 47
Met Gly Leu Asn Thr Ser Ala Ser Thr Phe Gln Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Met Glu Lys Ala His His Trp Ile Phe Ile Pro Leu Leu Ala Ala
             20                  25                  30

Tyr Ile Ser Ile Leu Leu Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg
         35                  40                  45

Asn Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu
     50                  55                  60

Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80
```

```
Gly Val Leu Trp Leu Asp His Arg Glu Thr Gly His Gly Ala Cys Phe
                 85                  90                  95

Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Val Met Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Cys Phe Ile Ala Ile His Asn Pro Leu
        115                 120                 125

Arg Tyr Ile Ser Ile Leu Thr Asn Thr Gln Val Met Lys Ile Gly Val
    130                 135                 140

Gly Val Leu Thr Arg Ala Gly Leu Ser Ile Met Pro Ile Val Val Arg
145                 150                 155                 160

Leu His Trp Phe Pro Tyr Cys Arg Ala His Val Phe Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu
            180                 185                 190

Asn Arg Leu Tyr Pro Val Val Val Leu Phe Ala Met Val Leu Leu Asp
        195                 200                 205

Phe Leu Ile Ile Phe Phe Ser Tyr Ile Leu Ile Leu Lys Thr Val Met
    210                 215                 220

Gly Ile Gly Ser Gly Gly Glu Arg Ala Lys Ala Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val Val Cys Leu
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys His Val Pro His Val Val His Ile
            260                 265                 270

Thr Met Arg Tyr Ile His Phe Leu Phe Pro Pro Phe Met Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Ile Leu Arg Leu
    290                 295                 300

Phe Ser Leu Pro His Ser Arg Ala
305                 310

<210> 48
<211> 315
<212> PRT
<213> Mus musculus

<400> 48
Met Pro Ser Met Trp Leu Asn Ile Ser Ser Ser Pro Phe Leu Leu Thr
  1               5                  10                  15

Gly Phe Pro Gly Leu Glu Lys Ala His His Leu Ile Ser Leu Pro Leu
             20                  25                  30
```

```
Leu Met Ala Tyr Ile Ser Ile Leu Leu Gly Asn Gly Thr Leu Leu Phe
         35                  40                  45

Leu Ile Lys Asp Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu
     50                  55                  60

Gly Met Leu Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro
 65                  70                  75                  80

Thr Val Leu Ser Val Leu Trp Leu Asn His Arg Glu Ile Gly His Gly
                 85                  90                  95

Ala Cys Phe Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Ile Val Glu
            100                 105                 110

Ser Gly Val Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Arg
        115                 120                 125

Asn Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asp Thr Lys Val Ile Lys
    130                 135                 140

Ile Gly Ile Gly Leu Val Met Arg Ala Gly Leu Ser Ile Met Pro Ile
145                 150                 155                 160

Ile Ile Arg Leu His Trp Phe Pro Tyr Cys Arg Ser His Val Leu Ser
                165                 170                 175

His Ala Phe Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp
            180                 185                 190

Ile Thr Phe Asn Arg Leu Tyr Pro Val Val Val Val Phe Ala Met Val
        195                 200                 205

Leu Leu Asp Phe Leu Ile Ile Phe Phe Ser Tyr Val Leu Ile Leu Lys
    210                 215                 220

Thr Val Met Gly Ile Ala Ser Thr Asp Glu Arg Ala Lys Ala Leu Asn
225                 230                 235                 240

Thr Cys Val Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val
                245                 250                 255

Val Gly Leu Thr Phe Ile His Arg Phe Gly Lys Asn Val Pro His Val
            260                 265                 270

Val His Ile Thr Met Ser Tyr Ile Tyr Phe Leu Phe Pro Pro Phe Met
        275                 280                 285

Asn Pro Val Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Leu
    290                 295                 300

Leu Arg Leu Phe Ser Leu Pro Cys Ser Lys Thr
305                 310                 315

<210> 49
<211> 307
<212> PRT
```

<213> Mus musculus

<400> 49

```
Met Trp Ser Asn Ile Ser Ala Ala Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Ile
             20                  25                  30

Tyr Ile Ser Val Leu Leu Gly Asn Gly Thr Leu Leu Tyr Leu Ile Lys
         35                  40                  45

Asp Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu
     50                  55                  60

Ala Gly Thr Asp Leu Thr Val Thr Leu Thr Thr Met Pro Thr Val Met
 65                  70                  75                  80

Ala Val Leu Trp Val Asn His Arg Glu Ile Arg His Gly Ala Cys Phe
                 85                  90                  95

Leu Gln Ala Tyr Ile Ile His Ser Leu Ser Ile Val Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ser Tyr Asp Arg Phe Val Ala Ile Cys Thr Pro Leu
        115                 120                 125

His Tyr Asn Ser Ile Leu Thr Asn Ser Arg Val Ile Ala Ile Gly Leu
    130                 135                 140

Gly Val Val Leu Arg Gly Phe Leu Ser Leu Val Pro Pro Ile Leu Pro
145                 150                 155                 160

Leu Phe Trp Phe Ser Tyr Cys Arg Ser His Val Leu Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ala Asp Ile Thr Phe
            180                 185                 190

Asn Arg Ile Tyr Pro Val Val Leu Val Ala Leu Thr Phe Phe Leu Asp
        195                 200                 205

Ala Leu Ile Ile Val Phe Ser Tyr Val Leu Ile Leu Lys Thr Val Met
    210                 215                 220

Gly Ile Ala Ser Gly Glu Glu Arg Ala Lys Ala Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Ser Cys Val Leu Val Phe Tyr Ile Thr Val Ile Gly Leu
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys Asn Ala Pro His Val Val His Ile
            260                 265                 270

Thr Met Ser Tyr Val Tyr Phe Leu Phe Pro Pro Phe Met Asn Pro Ile
        275                 280                 285
```

```
Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Arg Ser Val Leu His Leu
    290                 295                 300

Leu Ser Val
305
```

<210> 50
<211> 312
<212> PRT
<213> Homo sapiens

<400> 50

```
Met Trp Pro Asn Ile Thr Ala Ala Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Val
             20                  25                  30

Tyr Val Cys Ile Leu Leu Gly Asn Gly Met Leu Leu Tyr Leu Ile Lys
         35                  40                  45

His Asp His Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Thr Met Leu
     50                  55                  60

Ala Gly Thr Asp Leu Met Val Thr Leu Thr Thr Met Pro Thr Val Met
 65                  70                  75                  80

Gly Ile Leu Trp Val Asn His Arg Glu Ile Ser Ser Val Gly Cys Phe
                 85                  90                  95

Leu Gln Ala Tyr Phe Ile His Ser Leu Ser Val Val Glu Ser Gly Ser
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Arg Asn Pro Leu
        115                 120                 125

Arg Tyr Ala Ser Ile Phe Thr Asn Thr Arg Val Ile Ala Leu Gly Val
    130                 135                 140

Gly Val Phe Leu Arg Gly Phe Val Ser Ile Leu Pro Val Ile Leu Arg
145                 150                 155                 160

Leu Phe Ser Phe Ser Tyr Cys Lys Ser His Val Ile Thr Arg Ala Phe
                165                 170                 175

Cys Leu His Gln Glu Ile Met Arg Leu Ala Cys Ala Asp Ile Thr Phe
            180                 185                 190

Asn Arg Leu Tyr Pro Val Ile Leu Ile Ser Leu Thr Ile Phe Leu Asp
        195                 200                 205

Ser Leu Ile Ile Leu Phe Ser Tyr Ile Leu Ile Leu Asn Thr Val Ile
    210                 215                 220

Gly Ile Ala Ser Gly Glu Glu Arg Ala Lys Ala Leu Asn Thr Cys Ile
225                 230                 235                 240
```

```
Ser His Ile Ser Cys Val Leu Ile Phe Tyr Val Thr Val Met Gly Leu
                245                 250                 255

Thr Phe Ile Tyr Arg Phe Gly Lys Asn Val Pro Glu Val Val His Ile
            260                 265                 270

Ile Met Ser Tyr Ile Tyr Phe Leu Phe Pro Pro Leu Met Asn Pro Val
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Tyr Gly Ile Ile Arg Leu
    290                 295                 300

Leu Ser Lys His Arg Phe Ser Arg
305                 310
```

<210> 51
<211> 312
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (276)..(276)
<223> Wherein Xaa may be any naturally occurring amino acid

<400> 51

```
Met Trp Pro Asn Ile Thr Ala Ala Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Val
             20                  25                  30

Tyr Val Cys Ile Leu Leu Gly Asn Gly Met Leu Leu Tyr Leu Ile Lys
         35                  40                  45

His Asp His Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Thr Met Leu
     50                  55                  60

Ala Gly Thr Asp Leu Met Val Thr Leu Thr Thr Met Pro Thr Val Met
 65                  70                  75                  80

Gly Ile Leu Trp Val Asn His Arg Glu Ile Ser Ser Val Gly Cys Phe
                 85                  90                  95

Leu Gln Ala Tyr Phe Ile His Ser Leu Ser Val Val Glu Ser Gly Ser
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Arg Asn Pro Leu
        115                 120                 125

Arg Tyr Ala Ser Ile Phe Thr Asn Thr Arg Val Ile Ala Leu Gly Val
    130                 135                 140

Gly Val Phe Leu Arg Gly Phe Val Ser Ile Leu Pro Val Ile Leu Arg
145                 150                 155                 160

Leu Phe Ser Phe Ser Tyr Cys Lys Ser His Val Ile Thr Arg Ala Phe
```

```
                165                 170                 175

Cys Leu His Gln Glu Ile Met Arg Leu Ala Cys Ala Asp Ile Thr Phe
            180                 185                 190

Asn Arg Leu Tyr Pro Val Ile Leu Ile Ser Leu Thr Ile Phe Leu Asp
        195                 200                 205

Ser Leu Ile Ile Leu Phe Ser Tyr Ile Leu Ile Leu Asn Thr Val Ile
    210                 215                 220

Gly Ile Ala Ser Gly Glu Glu Arg Ala Lys Ala Leu Asn Thr Cys Ile
225                 230                 235                 240

Ser His Ile Ser Cys Val Leu Ile Phe Tyr Val Thr Val Met Gly Leu
                245                 250                 255

Thr Phe Ile Tyr Arg Phe Gly Lys Asn Val Pro Glu Val Val His Ile
            260                 265                 270

Ile Met Ser Xaa Ile Tyr Phe Leu Phe Pro Pro Leu Met Asn Pro Val
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Tyr Gly Ile Ile Arg Leu
    290                 295                 300

Leu Ser Lys His Arg Phe Ser Arg
305                 310

<210> 52
<211> 252
<212> PRT
<213> Homo sapiens

<400> 52
Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg Asn Asp His Asn Leu His
  1               5                  10                  15

Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu Ala Ala Thr Asp Leu Gly
             20                  25                  30

Val Thr Leu Thr Thr Met Pro Thr Val Leu Gly Val Leu Trp Leu Asp
         35                  40                  45

His Arg Glu Thr Gly His Gly Ala Cys Phe Ser Gln Ala Tyr Phe Ile
     50                  55                  60

His Thr Leu Ser Val Met Glu Ser Gly Val Leu Leu Ala Met Ala Tyr
 65                  70                  75                  80

Asp Cys Phe Ile Ala Ile His Asn Pro Leu Arg Tyr Ile Ser Ile Leu
                 85                  90                  95

Thr Asn Thr Gln Val Met Lys Ile Gly Val Gly Val Leu Thr Arg Ala
            100                 105                 110

Gly Leu Ser Ile Met Pro Ile Val Val Arg Leu His Trp Phe Pro Tyr
```

```
        115                 120                 125

Cys Arg Ala His Val Phe Ser His Ala Phe Cys Leu His Gln Asp Val
    130                 135                 140

Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu Asn Arg Leu Tyr Pro Val
145                 150                 155                 160

Val Val Leu Phe Ala Met Val Leu Leu Asp Phe Leu Ile Ile Phe Phe
                165                 170                 175

Ser Tyr Ile Leu Ile Leu Lys Thr Val Met Gly Ile Gly Ser Gly Gly
            180                 185                 190

Glu Arg Ala Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Cys Ile
        195                 200                 205

Leu Val Phe Tyr Val Thr Val Val Cys Leu Thr Phe Ile His Arg Phe
    210                 215                 220

Gly Lys His Val Pro His Val Val His Ile Thr Met Arg Tyr Ile His
225                 230                 235                 240

Phe Leu Phe Pro Pro Phe Met Asn Pro Phe Ile Tyr
                245                 250

<210> 53
<211> 312
<212> PRT
<213> Homo sapiens

<400> 53
Met Ser Ser Ser Ser Ser Ser His Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Glu Ala His His Trp Ile Ser Val Phe Phe Leu Phe Met
            20                  25                  30

Tyr Ile Ser Ile Leu Phe Gly Asn Gly Thr Leu Leu Leu Leu Ile Lys
         35                  40                  45

Glu Asp His Asn Leu His Glu Pro Met Tyr Phe Phe Leu Ala Met Leu
     50                  55                  60

Ala Ala Thr Asp Leu Gly Leu Ala Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

Gly Val Leu Trp Leu Asp His Arg Glu Ile Gly Ser Ala Ala Cys Phe
                85                  90                  95

Ser Gln Ala Tyr Phe Ile His Ser Leu Ser Phe Leu Glu Ser Gly Ile
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Asn Pro Leu
        115                 120                 125

Arg Tyr Thr Ser Val Leu Thr Asn Thr Arg Val Val Lys Ile Gly Leu
```

```
    130                 135                 140

Gly Val Leu Met Arg Gly Phe Val Ser Val Val Pro Pro Ile Arg Pro
145                 150                 155                 160

Leu Tyr Phe Phe Leu Tyr Cys His Ser His Val Leu Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Thr Thr Phe
            180                 185                 190

Asn Arg Leu Tyr Pro Ala Val Leu Val Val Phe Ile Phe Val Leu Asp
        195                 200                 205

Tyr Leu Ile Ile Phe Ile Ser Tyr Val Leu Ile Leu Lys Thr Val Leu
    210                 215                 220

Ser Ile Ala Ser Arg Glu Glu Arg Ala Lys Ala Leu Ile Thr Cys Val
225                 230                 235                 240

Ser His Ile Cys Cys Val Leu Val Phe Tyr Val Thr Val Ile Gly Leu
                245                 250                 255

Ser Leu Ile His Arg Phe Gly Lys Gln Val Pro His Ile Val His Leu
            260                 265                 270

Ile Met Ser Tyr Ala Tyr Phe Leu Phe Pro Pro Leu Met Asn Pro Ile
        275                 280                 285

Thr Tyr Ser Val Lys Thr Lys Gln Ile Gln Asn Ala Ile Leu His Leu
    290                 295                 300

Phe Thr Thr His Arg Ile Gly Thr
305                 310
```

<210> 54
<211> 315
<212> PRT
<213> Mus musculus

<400> 54

```
Met Pro Ser Met Trp Leu Asn Ile Ser Ser Ser Pro Phe Leu Leu Thr
  1               5                  10                  15

Gly Phe Pro Gly Leu Glu Lys Ala His His Leu Ile Ser Leu Pro Leu
             20                  25                  30

Leu Met Ala Tyr Ile Ser Ile Leu Leu Gly Asn Gly Thr Leu Leu Phe
         35                  40                  45

Leu Ile Lys Asp Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu
     50                  55                  60

Gly Met Leu Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro
 65                  70                  75                  80

Thr Val Leu Ser Val Leu Trp Leu Asn His Arg Glu Ile Gly His Gly
```

```
                85                  90                  95

Ala Cys Phe Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Ile Val Glu
            100                 105                 110

Ser Gly Val Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Arg
        115                 120                 125

Asn Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asp Thr Lys Val Ile Lys
    130                 135                 140

Ile Gly Ile Gly Leu Val Met Arg Ala Gly Leu Ser Ile Met Pro Ile
145                 150                 155                 160

Ile Ile Arg Leu His Trp Phe Pro Tyr Cys Arg Ser His Val Leu Ser
                165                 170                 175

His Ala Phe Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp
            180                 185                 190

Ile Thr Phe Asn Arg Leu Tyr Pro Val Val Val Val Phe Ala Met Val
        195                 200                 205

Leu Leu Asp Phe Leu Ile Ile Phe Phe Ser Tyr Val Leu Ile Leu Lys
    210                 215                 220

Thr Val Met Gly Ile Ala Ser Thr Asp Glu Arg Ala Lys Ala Leu Asn
225                 230                 235                 240

Thr Cys Val Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val
                245                 250                 255

Val Gly Leu Thr Phe Ile His Arg Phe Gly Lys Asn Val Pro His Val
            260                 265                 270

Val His Ile Thr Met Ser Tyr Ile Tyr Phe Leu Phe Pro Pro Phe Met
        275                 280                 285

Asn Pro Val Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Leu
    290                 295                 300

Leu Arg Leu Phe Ser Leu Pro Cys Ser Lys Thr
305                 310                 315

<210> 55
<211> 307
<212> PRT
<213> Mus musculus

<400> 55
Met Trp Ser Asn Ile Ser Ala Ala Pro Phe Leu Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Ile
             20                  25                  30

Tyr Ile Ser Val Leu Leu Gly Asn Gly Thr Leu Leu Tyr Leu Ile Lys
```

```
         35                  40                  45

Asp Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu
     50                  55                  60

Ala Gly Thr Asp Leu Thr Val Thr Leu Thr Thr Met Pro Thr Val Met
 65                  70                  75                  80

Ala Val Leu Trp Val Asn His Arg Glu Ile Arg His Gly Ala Cys Phe
                 85                  90                  95

Leu Gln Ala Tyr Ile Ile His Ser Leu Ser Ile Val Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ser Tyr Asp Arg Phe Val Ala Ile Cys Thr Pro Leu
        115                 120                 125

His Tyr Asn Ser Ile Leu Thr Asn Ser Arg Val Ile Ala Ile Gly Leu
    130                 135                 140

Gly Val Val Leu Arg Gly Phe Leu Ser Leu Val Pro Pro Ile Leu Pro
145                 150                 155                 160

Leu Phe Trp Phe Ser Tyr Cys Arg Ser His Val Leu Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ala Asp Ile Thr Phe
            180                 185                 190

Asn Arg Ile Tyr Pro Val Val Leu Val Ala Leu Thr Phe Phe Leu Asp
        195                 200                 205

Ala Leu Ile Ile Val Phe Ser Tyr Val Leu Ile Leu Lys Thr Val Met
    210                 215                 220

Gly Ile Ala Ser Gly Glu Glu Arg Ala Lys Ala Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Ser Cys Val Leu Val Phe Tyr Ile Thr Val Ile Gly Leu
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys Asn Ala Pro His Val Val His Ile
            260                 265                 270

Thr Met Ser Tyr Val Tyr Phe Leu Phe Pro Pro Phe Met Asn Pro Ile
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Arg Ser Val Leu His Leu
    290                 295                 300

Leu Ser Val
305

<210> 56
<211> 312
<212> PRT
<213> Homo sapiens
```

<400> 56

```
Met Gly Leu Asn Thr Ser Ala Ser Thr Phe Gln Leu Thr Gly Phe Pro
  1               5                  10                  15

Gly Met Glu Lys Ala His His Trp Ile Phe Ile Pro Leu Leu Ala Ala
             20                  25                  30

Tyr Ile Ser Ile Leu Leu Gly Ser Gly Thr Leu Leu Phe Leu Ile Arg
         35                  40                  45

Asn Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu
     50                  55                  60

Ala Ala Thr Asp Leu Gly Val Thr Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

Gly Val Leu Trp Leu Asp His Arg Glu Thr Gly His Gly Ala Cys Phe
                 85                  90                  95

Ser Gln Ala Tyr Phe Ile His Thr Leu Ser Val Met Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ala Tyr Asp Cys Phe Ile Ala Ile His Asn Pro Leu
        115                 120                 125

Arg Tyr Ile Ser Ile Leu Thr Asn Thr Gln Val Met Lys Ile Gly Val
    130                 135                 140

Gly Val Leu Thr Arg Ala Gly Leu Ser Ile Met Pro Ile Val Val Arg
145                 150                 155                 160

Leu His Trp Phe Pro Tyr Cys Arg Ala His Val Phe Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Ile Lys Leu Ala Cys Ala Asp Ile Thr Leu
            180                 185                 190

Asn Arg Leu Tyr Pro Val Val Val Leu Phe Ala Met Val Leu Leu Asp
        195                 200                 205

Phe Leu Ile Ile Phe Phe Ser Tyr Ile Leu Ile Leu Lys Thr Val Met
    210                 215                 220

Gly Ile Gly Ser Gly Gly Glu Arg Ala Lys Ala Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Cys Cys Ile Leu Val Phe Tyr Val Thr Val Val Cys Leu
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys His Val Pro His Val Val His Ile
            260                 265                 270

Thr Met Arg Tyr Ile His Phe Leu Phe Pro Pro Phe Met Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Ser Gly Ile Leu Arg Leu
```

```
    290                 295                 300

Phe Ser Leu Pro His Ser Arg Ala
305                 310

<210> 57
<211> 311
<212> PRT
<213> Homo sapiens

<400> 57
Met Trp Pro Asn Ser Ser Asp Ala Pro Phe Leu Leu Thr Gly Phe Leu
  1               5                  10                  15

Gly Leu Glu Met Ile His His Trp Ile Ser Ile Pro Phe Phe Val Ile
             20                  25                  30

Tyr Phe Ser Ile Ile Val Gly Asn Gly Thr Leu Leu Phe Ile Ile Trp
         35                  40                  45

Ser Asp His Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Val Leu
     50                  55                  60

Ala Ser Met Asp Leu Gly Met Thr Leu Thr Thr Met Pro Thr Val Leu
 65                  70                  75                  80

Gly Val Leu Val Leu Asn Gln Arg Glu Ile Val His Gly Ala Cys Phe
                 85                  90                  95

Ile Gln Ser Tyr Phe Ile His Ser Leu Ala Ile Val Glu Ser Gly Val
            100                 105                 110

Leu Leu Ala Met Ser Tyr Asp Arg Phe Val Ala Ile Cys Thr Pro Leu
        115                 120                 125

His Tyr Asn Ser Ile Leu Thr Asn Ser Arg Val Met Lys Met Ala Leu
    130                 135                 140

Gly Ala Leu Leu Arg Gly Phe Val Ser Ile Val Pro Pro Ile Met Pro
145                 150                 155                 160

Leu Phe Trp Phe Pro Tyr Cys His Ser His Val Leu Ser His Ala Phe
                165                 170                 175

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ala Asp Ile Thr Phe
            180                 185                 190

Asn Leu Ile Tyr Pro Val Val Leu Val Ala Leu Thr Phe Phe Leu Asp
        195                 200                 205

Ala Leu Ile Ile Ile Phe Ser Tyr Val Leu Ile Leu Lys Lys Val Met
    210                 215                 220

Gly Ile Ala Ser Gly Glu Glu Arg Lys Lys Ser Leu Asn Thr Cys Val
225                 230                 235                 240

Ser His Ile Ser Cys Val Leu Val Phe Tyr Ile Thr Val Ile Gly Leu
```

```
                245                 250                 255

Thr Phe Ile His Arg Phe Gly Lys Asn Ala Pro His Val Val His Ile
            260                 265                 270

Thr Met Ser Tyr Val Tyr Phe Leu Phe Pro Pro Phe Met Asn Pro Ile
        275                 280                 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Arg Ser Ile Leu Arg Leu
    290                 295                 300

Leu Ser Lys His Ser Arg Thr
305                 310
```

<210> 58
<211> 324
<212> PRT
<213> Mus musculus

<400> 58

```
Met Ser Leu Phe Pro Gln Arg Asn Leu Asp Ala Met Asn Arg Ser Ala
  1               5                  10                  15

Ala His Val Thr Glu Phe Val Leu Leu Gly Phe Pro Gly Ser Trp Lys
             20                  25                  30

Ile Gln Ile Phe Leu Phe Val Leu Phe Leu Val Phe Tyr Val Leu Thr
         35                  40                  45

Leu Leu Gly Asn Gly Ala Ile Ile Cys Ala Val Arg Cys Asp Ser Arg
     50                  55                  60

Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ser Phe Leu Glu
 65                  70                  75                  80

Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Ile Leu Ala Asn Ile Leu
                 85                  90                  95

Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr
            100                 105                 110

Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met
        115                 120                 125

Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Thr
    130                 135                 140

Ile Met Thr Arg Arg Leu Cys Cys Ile Leu Val Ser Ser Cys Trp Leu
145                 150                 155                 160

Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Ser Ile Ser Gln Leu
                165                 170                 175

Pro Phe Cys Gly Ser Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp
            180                 185                 190

Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Phe Ile
```

```
        195                 200                 205

Phe Tyr Ala Gln Ser Ser Phe Val Leu Phe Phe Thr Ile Ala Tyr Ile
    210                 215                 220

Leu Arg Ser Tyr Ile Leu Leu Leu Arg Ala Val Phe Gln Val Pro Ser
225                 230                 235                 240

Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val
                245                 250                 255

Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro
            260                 265                 270

Thr Tyr Gly Ile Pro Ile Leu Met Gln Lys Ile Leu Thr Leu Val Tyr
        275                 280                 285

Ser Val Met Thr Pro Leu Phe Asn Pro Leu Ile Tyr Ser Leu Arg Asn
    290                 295                 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Leu Gly Met Arg Ile
305                 310                 315                 320

Val Lys Asn Met


<210> 59
<211> 408
<212> PRT
<213> Rattus sp.

<400> 59
Met Glu Asn Val Lys Leu Ala Gly Lys Ile Gly Ser Ala Ala Thr Thr
  1               5                  10                  15

Lys Met Ala Lys Lys Gln Arg Asp Ser Thr Leu Ser Ser Gly Thr Ile
            20                  25                  30

Arg Glu Gly Leu Ser Gly Asp Asn Pro Thr Ile Lys Pro Ile Leu Leu
        35                  40                  45

Val Phe Pro Glu Ser Arg Leu Gln Ser Ala Ser Ala Tyr Ala Lys Lys
    50                  55                  60

Arg Glu Thr Thr Pro Ala Ser Gly Asn Ser Phe Ser Gln Gly Leu Leu
65                  70                  75                  80

His Ile Ala His Cys His Ser Arg Val Gln Arg Arg Tyr Cys His Lys
                85                  90                  95

Gly Met Thr Lys Asn Gln Thr Trp Val Thr Glu Phe Ile Leu Leu Gly
            100                 105                 110

Phe Pro Leu Ser Leu Arg Ile Gln Met Leu Leu Ser Gly Leu Phe Ser
        115                 120                 125

Leu Leu Tyr Val Phe Thr Leu Leu Gly Asn Gly Ala Ile Leu Gly Leu
```

```
    130                 135                 140

Ile Trp Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser
145                 150                 155                 160

His Leu Ala Ile Ile Asp Ile Ser Tyr Ala Ser Asn Asn Val Pro Lys
                165                 170                 175

Met Leu Thr Asn Leu Gly Leu Asn Lys Arg Lys Thr Ile Ser Phe Val
            180                 185                 190

Pro Cys Thr Met Gln Thr Phe Leu Tyr Met Ala Phe Ala His Thr Glu
        195                 200                 205

Cys Leu Ile Leu Val Met Met Ser Tyr Asp Arg Tyr Met Ala Ile Cys
    210                 215                 220

His Pro Leu Gln Tyr Ser Val Ile Met Arg Trp Gly Val Cys Thr Val
225                 230                 235                 240

Leu Ala Val Thr Ser Trp Ala Cys Gly Ser Leu Leu Ala Leu Val His
                245                 250                 255

Val Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro His Glu Ile Asn
            260                 265                 270

His Phe Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp
        275                 280                 285

Thr Trp Leu Asn Gln Val Val Ile Phe Ala Ala Ser Val Phe Ile Leu
    290                 295                 300

Val Gly Pro Leu Cys Leu Val Leu Val Ser Tyr Ser Arg Ile Leu Ala
305                 310                 315                 320

Ala Ile Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser
                325                 330                 335

Thr Cys Ser Ser His Leu Cys Met Val Gly Leu Phe Phe Gly Ser Ala
            340                 345                 350

Ile Val Met Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln
        355                 360                 365

Lys Val Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro
    370                 375                 380

Leu Ile Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Lys Arg
385                 390                 395                 400

Val Leu Trp Lys Gln Arg Ser Lys
                405
```

<210> 60
<211> 1056
<212> PRT
<213> Homo sapiens

<400> 60

```
Met Pro Val Leu Leu Pro Val His Phe Ser Ala Lys Cys Pro Leu Leu
  1               5                  10                  15

Leu Leu Cys Asp Pro Ala Asn Pro Pro Ser Glu Pro Leu Pro Ser Gln
             20                  25                  30

Gly Cys Phe Ile Phe Ile His Arg Val Leu Leu Asp Leu Ser Thr Ala
         35                  40                  45

Gly Glu Ser Gly Asn Thr Ala Gly Phe Ile Cys Asp Gln Ala Leu Leu
     50                  55                  60

Thr Ser Pro Val Arg Glu Asp Gly Ala Glu Asn Gly Leu Gly Phe His
 65                  70                  75                  80

Gln Pro Val Glu Leu His Ile Cys Gly Asp Ala Val Gly Phe Val Gly
                 85                  90                  95

Met Gly Gln Arg Arg Lys Pro Met Ser Val Pro Trp Ser His Pro Lys
            100                 105                 110

Ile Ser Glu Lys Cys Ala Ser Asp Thr Trp Cys Thr Asp Ala Thr Tyr
        115                 120                 125

His Arg Glu His Ser Lys Pro Ser Gly Pro Trp Glu His Gly Pro Leu
    130                 135                 140

Lys Pro Phe Glu Asp Trp Val Pro Ala Leu Pro Tyr Pro Leu Trp Pro
145                 150                 155                 160

Gln Glu Leu Leu His Cys Gly Ser Gln Ser Gly Asp Cys Met Cys Leu
                165                 170                 175

Leu Leu Leu Glu Ser Ser Arg Arg Ser Pro Pro Thr Leu Pro Ile Pro
            180                 185                 190

Leu Thr Phe Pro Arg Leu Cys Gln Ser Phe Pro Leu Leu Thr Ala Ser
        195                 200                 205

Gly Lys Glu Pro Ser Cys Gly Phe Thr Ser Ala Leu Arg Arg Leu Tyr
    210                 215                 220

Gly Cys Gly Ala Ala Glu Arg Pro Gln Ser Pro Val Thr Pro Lys Thr
225                 230                 235                 240

Glu Thr Ser Glu Gln Gly Pro Lys Asp Pro Pro Ile His Leu Ala His
                245                 250                 255

Pro Ser Asp Arg Ala Leu Ser Pro Ser Cys Phe Leu Ser Leu Arg Ala
            260                 265                 270

Val Ile Leu Thr Cys Lys Asn Arg Asp Ala Gln Val Glu Glu Gly His
        275                 280                 285

Arg Arg Glu Pro Pro Val Leu Asp Cys Gly Tyr Gln Arg Ser Gly Thr
```

290 295 300

Arg Gly Asn His Thr Arg Arg Ile Cys Ser Thr Leu Arg Gly Ser Arg
305 310 315 320

Ile Glu Ala Trp Val Ala Ala Ala Thr Leu Gln Arg Gly Pro Tyr Phe
325 330 335

Arg Lys Gln Gln Pro Leu Gly Lys Asp Ser Trp Ser Val Ala Glu Asp
340 345 350

Trp Ile Glu Ala Phe Met Leu Ala Phe Gly Val Arg Val Leu Trp Asp
355 360 365

Ala Ser Met Ala Leu Glu Ala Gln Arg Asp Pro Ser Ser Asn Asp Thr
370 375 380

Lys Gly Lys Asp Gln Leu Thr Lys Arg Asp Gln Arg Asn Pro Gln Asn
385 390 395 400

Phe Ala Leu Leu Gln Lys Ser Ala Ala Ser Asp Trp Asn Ser Gln Pro
405 410 415

Val Cys Arg Arg Gly Tyr Leu Thr Cys Ala Ser Ala Ser Leu Gly Glu
420 425 430

Ile Ser Ser Pro His Phe Pro Val His Leu Asn Ala Pro Lys Cys His
435 440 445

Trp Gly Leu Ser Ser Ser Pro Val Glu Arg Trp Met Leu Arg Glu Arg
450 455 460

Lys Ala Val Thr Asp Glu Ser Ser Ser Ser Trp Met Val Ala Ile Arg
465 470 475 480

Ala Arg Glu Thr Pro Gly Ile Leu Ala Gln Arg Ile Cys Ser Ala Leu
485 490 495

Lys Gly Val Trp Cys Gln Ala Ala Gln Gly Ser Leu Pro Arg Leu Leu
500 505 510

Ser Ser Leu Ser Ile Ser Thr Gly Cys Asp Lys Thr Ala Val Leu Thr
515 520 525

Phe Asp Arg Ala Leu Leu Thr Arg Glu His Ser Lys Pro Asn Gly Pro
530 535 540

Trp Glu Arg Gly Pro Leu Lys Pro Ser Gly Asp Trp Asp Thr Cys Leu
545 550 555 560

His Tyr Leu Leu Trp Pro Gln Glu Leu Phe His Cys Arg Ser Gln Thr
565 570 575

Glu Asp Tyr Thr Val Thr Trp Phe Asp Val Val Asp Arg Gln Met Gln
580 585 590

Lys Tyr Ser Gln Ser Pro Phe Leu Glu Gln Arg Val Lys Lys Thr Met

595 600 605

Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu Ala
610 615 620

Gly Leu Pro Asn Leu Asn Ser Ala Arg Val Glu Leu Phe Ser Val Phe
625 630 635 640

Leu Leu Val Tyr Leu Leu Asn Leu Thr Gly Asn Val Leu Ile Val Gly
645 650 655

Val Val Arg Ala Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu
660 665 670

Gly Asn Leu Ser Cys Leu Glu Ile Leu Leu Thr Ser Val Ile Ile Pro
675 680 685

Lys Met Leu Ser Asn Phe Leu Ser Arg Gln His Thr Ile Ser Phe Ala
690 695 700

Ala Cys Ile Thr Gln Phe Tyr Phe Tyr Phe Phe Leu Gly Ala Ser Glu
705 710 715 720

Phe Leu Leu Leu Ala Val Met Ser Ala Asp Arg Tyr Leu Ala Ile Cys
725 730 735

His Pro Leu Arg Tyr Pro Leu Leu Met Ser Gly Ala Val Cys Phe Arg
740 745 750

Val Ala Leu Ala Cys Trp Val Gly Gly Leu Val Pro Val Leu Gly Pro
755 760 765

Thr Val Ala Val Ala Leu Leu Pro Phe Cys Lys Gln Gly Ala Val Val
770 775 780

Gln His Phe Phe Cys Asp Ser Gly Pro Leu Leu Arg Leu Ala Cys Thr
785 790 795 800

Asn Thr Lys Lys Leu Glu Glu Thr Asp Phe Val Leu Ala Ser Leu Val
805 810 815

Ile Val Ser Ser Leu Leu Ile Thr Ala Val Ser Tyr Gly Leu Ile Val
820 825 830

Leu Ala Val Leu Ser Ile Pro Ser Ala Ser Gly Arg Gln Lys Ala Phe
835 840 845

Ser Thr Cys Thr Ser His Leu Ile Val Val Thr Leu Phe Tyr Gly Ser
850 855 860

Ala Ile Phe Leu Tyr Val Arg Pro Ser Gln Ser Gly Ser Val Asp Thr
865 870 875 880

Asn Trp Ala Val Thr Val Ile Thr Thr Phe Val Thr Pro Leu Leu Asn
885 890 895

Pro Phe Ile Tyr Ala Leu Arg Asn Glu Gln Val Lys Glu Ala Leu Lys

```
            900                 905                 910

Asp Met Phe Arg Lys Gly Cys Asp Phe Ala Phe Glu Arg Cys Asn Ser
        915                 920                 925

Ala Cys Asn Cys Arg Lys Gly Ser Leu Thr Thr Thr Thr Lys Ser Ala
    930                 935                 940

Thr Leu Arg Cys Gly Ala Gly Ala Lys Ala Arg Ala Gly Ala Arg Leu
945                 950                 955                 960

His Pro Ala Ala Gly Ser Pro Arg Asp Ser Arg Lys Val Asn Val Arg
                965                 970                 975

Val Gln Lys Asp Pro Arg Arg Ser Val Pro Lys Val Glu Thr Phe Ile
            980                 985                 990

Ser Gly Ser Gly Pro Ser Cys Val Gly Gln Cys Thr Gly Arg Val Cys
        995                1000                1005

Ile Leu Lys Gly Thr Arg Thr Ile Ser Gly Gly Leu Trp Leu Glu Asp
   1010                1015                1020

Pro Arg Lys Thr Arg Thr Thr Asp Phe Thr His Arg Lys Ile Lys Val
1025                1030                1035                1040

Thr Ala Gly Leu Ala Gly Glu Lys Val Glu Pro Thr Leu Pro Arg Cys
               1045                1050                1055
```

<210> 61
<211> 322
<212> PRT
<213> Homo sapiens

<400> 61

```
Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly
  1               5                  10                  15

Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu
             20                  25                  30

Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val
         35                  40                  45

Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln
     50                  55                  60

His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu
 65                  70                  75                  80

Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala
                 85                  90                  95

Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys
            100                 105                 110

Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser
```

```
        115                 120                 125

Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu
    130                 135                 140

Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser
145                 150                 155                 160

Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His
                165                 170                 175

Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val
            180                 185                 190

Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys
        195                 200                 205

Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser
    210                 215                 220

Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile
                245                 250                 255

Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys
            260                 265                 270

Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val
    290                 295                 300

Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe
305                 310                 315                 320

Leu Tyr
```

<210> 62
<211> 310
<212> PRT
<213> Homo sapiens

<400> 62

```
Met Gly Glu Asn Gln Thr Met Val Thr Glu Phe Leu Leu Leu Gly Phe
  1               5                  10                  15

Leu Leu Gly Pro Arg Ile Gln Met Leu Leu Phe Gly Leu Phe Ser Leu
             20                  25                  30

Phe Tyr Ile Phe Thr Leu Leu Gly Asn Gly Ala Ile Leu Gly Leu Ile
         35                  40                  45

Ser Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
```

```
     50                  55                  60

Leu Ala Val Val Asp Ile Ala Tyr Thr Arg Asn Thr Val Pro Gln Met
 65                  70                  75                  80

Leu Ala Asn Leu Leu His Pro Ala Lys Pro Ile Ser Phe Ala Gly Cys
                 85                  90                  95

Met Thr Gln Thr Phe Leu Cys Leu Ser Phe Gly His Ser Glu Cys Leu
            100                 105                 110

Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His Pro
        115                 120                 125

Leu Arg Tyr Ser Val Ile Met Thr Trp Arg Val Cys Ile Thr Leu Ala
    130                 135                 140

Val Thr Ser Trp Thr Cys Gly Ser Leu Leu Ala Leu Ala His Val Val
145                 150                 155                 160

Leu Ile Leu Arg Leu Pro Phe Ser Gly Pro His Glu Ile Asn His Phe
                165                 170                 175

Phe Cys Glu Ile Leu Ser Val Leu Arg Leu Ala Cys Ala Asp Thr Trp
            180                 185                 190

Leu Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Phe Leu Val Gly
        195                 200                 205

Pro Pro Ser Leu Val Leu Val Ser Tyr Ser His Ile Leu Ala Ala Ile
    210                 215                 220

Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys
225                 230                 235                 240

Ser Ser His Leu Cys Val Val Gly Leu Phe Phe Gly Ser Ala Ile Ile
                245                 250                 255

Met Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val
            260                 265                 270

Phe Phe Leu Phe Tyr Ser Phe Phe Asn Pro Thr Leu Asn Pro Leu Ile
        275                 280                 285

Tyr Ser Leu Arg Asn Gly Glu Val Lys Gly Ala Leu Arg Arg Ala Leu
    290                 295                 300

Gly Lys Glu Ser His Ser
305                 310

<210> 63
<211> 217
<212> PRT
<213> Homo sapiens

<400> 63
Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met Leu Val
```

```
  1               5                  10                  15

Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys Phe Leu
             20                  25                  30

Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu Leu Leu
         35                  40                  45

Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro Leu Leu
     50                  55                  60

Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val Ile Leu
 65                  70                  75                  80

Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val Leu Ile
                 85                  90                  95

Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val Val Cys
            100                 105                 110

Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro Arg Ile
        115                 120                 125

Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly Asn Phe
    130                 135                 140

Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met Leu Gly
145                 150                 155                 160

Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys Gly Ser
                165                 170                 175

His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val Met Tyr
            180                 185                 190

Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile Glu Thr
        195                 200                 205

Leu Phe Tyr Ala Met Val Thr Pro Leu
    210                 215

<210> 64
<211> 324
<212> PRT
<213> Mus musculus

<400> 64
Met Ser Leu Phe Pro Gln Arg Asn Leu Asp Ala Met Asn Arg Ser Ala
  1               5                  10                  15

Ala His Val Thr Glu Phe Val Leu Leu Gly Phe Pro Gly Ser Trp Lys
             20                  25                  30

Ile Gln Ile Phe Leu Phe Val Leu Phe Leu Val Phe Tyr Val Leu Thr
         35                  40                  45

Leu Leu Gly Asn Gly Ala Ile Ile Cys Ala Val Arg Cys Asp Ser Arg
```

```
     50                  55                  60

Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ser Phe Leu Glu
 65                  70                  75                  80

Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Ile Leu Ala Asn Ile Leu
                 85                  90                  95

Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr
            100                 105                 110

Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met
        115                 120                 125

Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Thr
    130                 135                 140

Ile Met Thr Arg Arg Leu Cys Cys Ile Leu Val Ser Ser Cys Trp Leu
145                 150                 155                 160

Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Ser Ile Ser Gln Leu
                165                 170                 175

Pro Phe Cys Gly Ser Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp
            180                 185                 190

Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Phe Ile
        195                 200                 205

Phe Tyr Ala Gln Ser Ser Phe Val Leu Phe Phe Thr Ile Ala Tyr Ile
    210                 215                 220

Leu Arg Ser Tyr Ile Leu Leu Leu Arg Ala Val Phe Gln Val Pro Ser
225                 230                 235                 240

Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val
                245                 250                 255

Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro
            260                 265                 270

Thr Tyr Gly Ile Pro Ile Leu Met Gln Lys Ile Leu Thr Leu Val Tyr
        275                 280                 285

Ser Val Met Thr Pro Leu Phe Asn Pro Leu Ile Tyr Ser Leu Arg Asn
    290                 295                 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Leu Gly Met Arg Ile
305                 310                 315                 320

Val Lys Asn Met
```

<210> 65
<211> 506
<212> PRT
<213> Homo sapiens

<400> 65

```
Lys Pro Ser Gly Asp Trp Asp Thr Cys Leu His Tyr Leu Leu Trp Pro
  1               5                  10                  15

Gln Glu Leu Phe His Cys Arg Ser Gln Thr Glu Asp Tyr Thr Val Thr
             20                  25                  30

Trp Phe Asp Val Val Asp Arg Gln Met Gln Lys Tyr Ser Gln Ser Pro
         35                  40                  45

Phe Leu Glu Gln Arg Val Lys Lys Thr Met Ser Pro Asp Gly Asn His
     50                  55                  60

Ser Ser Asp Pro Thr Glu Phe Val Leu Ala Gly Leu Pro Asn Leu Asn
 65                  70                  75                  80

Ser Ala Arg Val Glu Leu Phe Ser Val Phe Leu Leu Val Tyr Leu Leu
                 85                  90                  95

Asn Leu Thr Gly Asn Val Leu Ile Val Gly Val Val Arg Ala Asp Thr
            100                 105                 110

Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu Ser Cys Leu
        115                 120                 125

Glu Ile Leu Leu Thr Ser Val Ile Ile Pro Lys Met Leu Ser Asn Phe
    130                 135                 140

Leu Ser Arg Gln His Thr Ile Ser Phe Ala Ala Cys Ile Thr Gln Phe
145                 150                 155                 160

Tyr Phe Tyr Phe Phe Leu Gly Ala Ser Glu Phe Leu Leu Leu Ala Val
                165                 170                 175

Met Ser Ala Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Arg Tyr Pro
            180                 185                 190

Leu Leu Met Ser Gly Ala Val Cys Phe Arg Val Ala Leu Ala Cys Trp
        195                 200                 205

Val Gly Gly Leu Val Pro Val Leu Gly Pro Thr Val Ala Val Ala Leu
    210                 215                 220

Leu Pro Phe Cys Lys Gln Gly Ala Val Val Gln His Phe Phe Cys Asp
225                 230                 235                 240

Ser Gly Pro Leu Leu Arg Leu Ala Cys Thr Asn Thr Lys Lys Leu Glu
                245                 250                 255

Glu Thr Asp Phe Val Leu Ala Ser Leu Val Ile Val Ser Ser Leu Leu
            260                 265                 270

Ile Thr Ala Val Ser Tyr Gly Leu Ile Val Leu Ala Val Leu Ser Ile
        275                 280                 285

Pro Ser Ala Ser Gly Arg Gln Lys Ala Phe Ser Thr Cys Thr Ser His
```

```
    290                 295                 300

Leu Ile Val Val Thr Leu Phe Tyr Gly Ser Ala Ile Phe Leu Tyr Val
305                 310                 315                 320

Arg Pro Ser Gln Ser Gly Ser Val Asp Thr Asn Trp Ala Val Thr Val
                325                 330                 335

Ile Thr Thr Phe Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ala Leu
            340                 345                 350

Arg Asn Glu Gln Val Lys Glu Ala Leu Lys Asp Met Phe Arg Lys Gly
        355                 360                 365

Cys Asp Phe Ala Phe Glu Arg Cys Asn Ser Ala Cys Asn Cys Arg Lys
    370                 375                 380

Gly Ser Leu Thr Thr Thr Thr Lys Ser Ala Thr Leu Arg Cys Gly Ala
385                 390                 395                 400

Gly Ala Lys Ala Arg Ala Gly Ala Arg Leu His Pro Ala Ala Gly Ser
                405                 410                 415

Pro Arg Asp Ser Arg Lys Val Asn Val Arg Val Gln Lys Asp Pro Arg
            420                 425                 430

Arg Ser Val Pro Lys Val Glu Thr Phe Ile Ser Gly Ser Gly Pro Ser
        435                 440                 445

Cys Val Gly Gln Cys Thr Gly Arg Val Cys Ile Leu Lys Gly Thr Arg
    450                 455                 460

Thr Ile Ser Gly Gly Leu Trp Leu Glu Asp Pro Arg Lys Thr Arg Thr
465                 470                 475                 480

Thr Asp Phe Thr His Arg Lys Ile Lys Val Thr Ala Gly Leu Ala Gly
                485                 490                 495

Glu Lys Val Glu Pro Thr Leu Pro Arg Cys
            500                 505

<210> 66
<211> 216
<212> PRT
<213> Homo sapiens

<400> 66
Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln Met Val Val
  1               5                  10                  15

Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly Cys Leu Thr
             20                  25                  30

Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser Leu Leu Leu
         35                  40                  45

Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu His
```

```
     50                  55                  60

Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu Val Ala Gly
 65                  70                  75                  80

Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr Val Leu Ile
                 85                  90                  95

Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His Phe Leu Cys
            100                 105                 110

Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val Ser Phe Asn
        115                 120                 125

Val Met Ile Ile Phe Ala Val Gly Asp Leu Leu Ala Leu Thr Pro Leu
    130                 135                 140

Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr Val Leu Lys
145                 150                 155                 160

Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr Cys Ser Cys
                165                 170                 175

His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile Ala Val Tyr
            180                 185                 190

Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr Leu Ser Thr
        195                 200                 205

Ile Met Tyr Ser Met Val Ala Pro
    210                 215

<210> 67
<211> 248
<212> PRT
<213> Homo sapiens

<400> 67
Met Pro Phe Phe Pro Lys Leu Pro Val Ala Asp Gln Val Thr Gly Pro
  1               5                  10                  15

Met Asn Val Ser Glu Pro Asn Ser Ser Phe Ala Leu Val Asn Glu Phe
             20                  25                  30

Ile Leu Gln Asp Leu Ser Phe Glu Trp Thr Ile Gln Ile Phe Leu Phe
         35                  40                  45

Ser Leu Phe Thr Thr Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala
     50                  55                  60

Ile Ala Cys Ala Leu Trp Cys Asp Arg Arg Arg His Thr Pro Met Tyr
 65                  70                  75                  80

Met Phe Leu Gly Asn Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser
                 85                  90                  95

Thr Val Pro Lys Met Leu Met Pro Phe Cys Gly Pro Asn Ile Asn Asp
```

```
            100                 105                 110

His Val Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Val Ser
        115                 120                 125

Ala Pro Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile
    130                 135                 140

Phe Gly Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys
145                 150                 155                 160

Ala Val Leu Gly Met Pro Ser Ser Thr Gly Lys His Lys Ala Phe Ser
                165                 170                 175

Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Ser Leu
            180                 185                 190

Met Val Met Cys Val Ser Pro Gly Leu Gly His Ser Met Gly Met Gln
        195                 200                 205

Lys Ile Lys Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro
    210                 215                 220

Leu Ile Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys
225                 230                 235                 240

Val Leu Gly Ser Ser Asn Ile Ile
                245
```

<210> 68
<211> 316
<212> PRT
<213> Homo sapiens

<400> 68

```
Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu
             20                  25                  30

Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val
         35                  40                  45

Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln
     50                  55                  60

Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys
 65                  70                  75                  80

Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly
                 85                  90                  95

Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Ser Ser Glu Cys
            100                 105                 110

Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn
```

```
        115                 120                 125

Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met
    130                 135                 140

Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr
145                 150                 155                 160

Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His
                165                 170                 175

Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr
            180                 185                 190

Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met
        195                 200                 205

Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr
    210                 215                 220

Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser
                245                 250                 255

Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys
            260                 265                 270

Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile
        275                 280                 285

Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr
    290                 295                 300

Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe
305                 310                 315

<210> 69
<211> 316
<212> PRT
<213> Homo sapiens

<400> 69
Met Asp Asn Gln Ser Ser Thr Pro Gly Phe Leu Leu Leu Gly Phe Ser
  1               5                  10                  15

Glu His Pro Gly Leu Glu Arg Thr Leu Phe Val Val Val Phe Thr Ser
             20                  25                  30

Tyr Leu Leu Thr Leu Val Gly Asn Thr Leu Ile Ile Leu Leu Ser Ala
         35                  40                  45

Leu Asp Pro Lys Leu His Ser Pro Met Tyr Phe Phe Leu Ser Asn Leu
     50                  55                  60

Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Cys Val Pro Gln Met Leu
```

```
 65                  70                  75                  80

Val Asn Leu Trp Gly Pro Lys Lys Thr Ile Ser Phe Leu Asp Cys Ser
                 85                  90                  95

Val Gln Ile Phe Ile Phe Leu Ser Leu Gly Thr Thr Glu Cys Ile Leu
            100                 105                 110

Leu Thr Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys Gln Pro Leu
        115                 120                 125

His Tyr Ala Thr Ile Ile His Pro Arg Leu Cys Trp Gln Leu Ala Ser
    130                 135                 140

Val Ala Trp Val Ile Gly Leu Val Glu Ser Val Val Gln Thr Pro Ser
145                 150                 155                 160

Thr Leu His Leu Pro Phe Cys Pro Asp Arg Gln Val Asp Asp Phe Val
                165                 170                 175

Cys Glu Val Pro Ala Leu Ile Arg Leu Ser Cys Glu Asp Thr Ser Tyr
            180                 185                 190

Asn Glu Ile Gln Val Ala Val Ala Ser Val Phe Ile Leu Val Val Pro
        195                 200                 205

Leu Ser Leu Ile Leu Val Ser Tyr Gly Ala Ile Thr Trp Ala Val Leu
    210                 215                 220

Arg Ile Asn Ser Ala Lys Gly Arg Arg Lys Ala Phe Gly Thr Cys Ser
225                 230                 235                 240

Ser His Leu Thr Val Val Thr Leu Phe Tyr Ser Ser Val Ile Ala Val
                245                 250                 255

Tyr Leu Gln Pro Lys Asn Pro Tyr Ala Gln Glu Arg Gly Lys Phe Phe
            260                 265                 270

Gly Leu Phe Tyr Ala Val Gly Thr Pro Ser Leu Asn Pro Leu Ile Tyr
        275                 280                 285

Thr Leu Arg Asn Lys Glu Val Thr Arg Ala Phe Arg Arg Leu Leu Gly
    290                 295                 300

Lys Glu Arg Asp Ser Arg Glu Ser Trp Arg Ala Ala
305                 310                 315

<210> 70
<211> 321
<212> PRT
<213> Mus musculus

<400> 70
Met Ser Val Asn Cys Ser Leu Trp Gln Glu Asn Lys Leu Ser Val Lys
  1               5                  10                  15

His Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Glu Glu Cys Phe Leu
```

```
            20                  25                  30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
         35                  40                  45

Ala Leu Ile Thr Leu Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro
     50                  55                  60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
 65                  70                  75                  80

Cys Ser Val Ile Pro Lys Met Leu Gln Asn Leu Val Ser Glu Ile Arg
                 85                  90                  95

Gly Ile Ser Arg Glu Gly Cys Val Thr Gln Met Phe Phe Phe Ile Phe
            100                 105                 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Phe Asp Cys
        115                 120                 125

Tyr Met Ala Ile Cys Ser Pro Leu His Tyr Ser Thr Arg Met Ser Arg
    130                 135                 140

Glu Val Cys Ala His Leu Ala Leu Val Ser Trp Gly Met Gly Cys Ile
145                 150                 155                 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly
                165                 170                 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala
            180                 185                 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala
        195                 200                 205

Val Val Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr
    210                 215                 220

Val Arg Ile Leu Val Ala Val Leu Val Met Pro Ser Pro Glu Gly Arg
225                 230                 235                 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu
                245                 250                 255

Phe Phe Gly Ser Gly Ser Ile Thr Tyr Leu Arg Pro Lys Ser Ser His
            260                 265                 270

Leu Pro Gly Met Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr
        275                 280                 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys
    290                 295                 300

Ala Ala Leu Arg Lys Thr Leu Ser Leu Lys Thr Ser Arg Ala Ile Asn
305                 310                 315                 320

Arg
```

<210> 71
<211> 321
<212> PRT
<213> Rattus norvegicus

<400> 71
Met Thr Val Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Thr Val Lys
1 5 10 15

His Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu
20 25 30

Leu Phe Asn Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
35 40 45

Thr Leu Ile Val Leu Ala Ile Cys Thr Ser Pro Ser Leu His Thr Pro
50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg
85 90 95

Glu Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Ala Phe
100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Phe Asp Arg
115 120 125

Cys Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser Arg
130 135 140

Glu Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile
145 150 155 160

Val Ser Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly
165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Leu Leu Ala
180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Val
195 200 205

Ala Val Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr
210 215 220

Val Lys Ile Leu Ile Ala Val Leu Leu Met Pro Ser Pro Glu Gly Arg
225 230 235 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu
245 250 255

Phe Tyr Gly Ser Ala Cys Ile Thr Tyr Leu Arg Pro Lys Ser Ser His

```
            260                 265                 270

Ser Pro Gly Met Asp Lys Phe Leu Ala Leu Phe Tyr Thr Val Val Thr
        275                 280                 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys
    290                 295                 300

Ala Ala Leu Arg Arg Thr Leu Gly Leu Lys Lys Ile Leu Ser Ile Asn
305                 310                 315                 320

Arg
```

<210> 72
<211> 306
<212> PRT
<213> Homo sapiens

<400> 72

```
Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
  1               5                  10                  15

Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
             20                  25                  30

Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
         35                  40                  45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
     50                  55                  60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
 65                  70                  75                  80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
                 85                  90                  95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
            100                 105                 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
        115                 120                 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
    130                 135                 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
145                 150                 155                 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
                165                 170                 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
            180                 185                 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
```

```
        195                 200                 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
    210                 215                 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
225                 230                 235                 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
                245                 250                 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
            260                 265                 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
        275                 280                 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
    290                 295                 300

Glu Ile
305
```

<210> 73
<211> 312
<212> PRT
<213> Gallus gallus

<400> 73

```
Met Ala Glu Gly Asn His Thr Leu Ala Ser Glu Phe Ile Leu Val Gly
  1               5                  10                  15

Leu Ser Asp His Pro Lys Met Lys Ala Ala Leu Phe Val Val Phe Leu
             20                  25                  30

Leu Ile Tyr Val Ile Thr Phe Gln Gly Asn Leu Gly Ile Ile Ile Leu
         35                  40                  45

Ile Gln Gly Asp Pro Arg Leu His Thr Ser Met Tyr Phe Phe Leu Ser
     50                  55                  60

Ser Leu Ser Val Val Asp Ile Cys Phe Ser Ser Val Ile Ala Pro Arg
 65                  70                  75                  80

Thr Leu Val Asn Phe Leu Ser Glu Arg Arg Thr Ile Ser Phe Thr Gly
                 85                  90                  95

Cys Thr Gly Gln Thr Phe Phe Tyr Ile Val Phe Val Thr Thr Glu Cys
            100                 105                 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Ser Thr Ile Met Thr Arg Arg Gln Cys Met Gln Leu
    130                 135                 140

Val Val Gly Ser Tyr Ile Gly Gly Ile Leu Asn Ala Ile Ile Gln Thr
```

```
145                 150                 155                 160

Thr Phe Ile Ile Arg Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His
                165                 170                 175

Phe Phe Cys Asp Val Pro Pro Leu Leu Ala Leu Ser Leu Ala Ser Thr
            180                 185                 190

Tyr Ile Ser Glu Met Ile Leu Phe Ser Leu Ala Gly Ile Ile Glu Leu
        195                 200                 205

Ser Thr Val Thr Ser Ile Leu Val Ser Tyr Ile Phe Ile Ser Cys Ala
    210                 215                 220

Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Lys Ala Leu Ser Thr
225                 230                 235                 240

Cys Ala Ser His Leu Thr Ala Val Thr Leu Leu Tyr Gly Thr Thr Ile
                245                 250                 255

Phe Thr Tyr Leu Arg Pro Ser Ser Ser Tyr Ser Leu Asn Thr Asp Lys
            260                 265                 270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Gln Glu Val Lys Gly Ala Leu Ser Arg Val
    290                 295                 300

Val Glu Arg Ile Thr Val Arg Val
305                 310

<210> 74
<211> 313
<212> PRT
<213> Homo sapiens

<400> 74
Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu
  1               5                  10                  15

Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala
             20                  25                  30

Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met
         35                  40                  45

Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe
     50                  55                  60

Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val
 65                  70                  75                  80

Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser
                 85                  90                  95

Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly
```

```
            100                 105                 110

Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala
        115                 120                 125

Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys
    130                 135                 140

Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala
145                 150                 155                 160

Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg
                165                 170                 175

Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys
            180                 185                 190

Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe
        195                 200                 205

Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile
    210                 215                 220

Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala
225                 230                 235                 240

Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly
                245                 250                 255

Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu
            260                 265                 270

Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu
        275                 280                 285

Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu
    290                 295                 300

Lys Lys Ile Leu Trp Lys His Ile Leu
305                 310

<210> 75
<211> 452
<212> PRT
<213> Homo sapiens

<400> 75
Met Ser Lys Ser Val Cys Ser Phe Leu Ile Thr Val Pro Tyr Val Tyr
  1               5                  10                  15

Gly Ala Leu Thr Gly Leu Met Glu Thr Met Trp Thr Tyr Asn Leu Ala
             20                  25                  30

Phe Cys Gly Pro Asn Glu Ile Asn His Phe Tyr Cys Ala Asp Pro Pro
         35                  40                  45

Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr Asn Lys Glu Leu Ser Met
```

```
     50                  55                  60

Phe Val Val Ala Gly Trp Asn Leu Ser Phe Ser Leu Phe Ile Ile Phe
 65                  70                  75                  80

Ile Ser Tyr Phe Tyr Ile Phe Pro Ala Ile Leu Arg Ile Arg Ser Thr
                 85                  90                  95

Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Ala
            100                 105                 110

Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe Met Cys Leu Arg Pro Pro
        115                 120                 125

Ser Glu Glu Ser Met Glu Gln Gly Gln Met Met Ala Arg Lys Asp Met
    130                 135                 140

Ala His Ile Asn Cys Thr Gln Ala Thr Glu Phe Ile Leu Val Gly Leu
145                 150                 155                 160

Thr Asp His Gln Glu Leu Lys Met Pro Leu Phe Val Leu Phe Leu Ser
                165                 170                 175

Ile Tyr Leu Phe Thr Val Val Gly Asn Leu Gly Leu Ile Leu Leu Ile
            180                 185                 190

Arg Ala Asp Thr Ser Leu Asn Thr Pro Met Tyr Phe Phe Leu Ser Asn
        195                 200                 205

Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys Met
    210                 215                 220

Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val Ile Ser Phe Asp Ala Cys
225                 230                 235                 240

Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Ser Glu Ser Leu
                245                 250                 255

Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro
            260                 265                 270

Leu Leu Tyr Met Val Val Met Thr Pro Gly Ile Cys Ile Gln Leu Val
        275                 280                 285

Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met Ala Leu Phe His Thr Ile
    290                 295                 300

Leu Thr Phe Arg Leu Ser Tyr Cys His Ser Asn Ile Val Asn His Phe
305                 310                 315                 320

Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu Thr Cys Ser Asp Thr Arg
                325                 330                 335

Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala Gly Ile Met Phe Ile Ser
            340                 345                 350

Ser Leu Leu Ile Val Phe Val Ser Tyr Met Phe Ile Ile Ser Ala Ile
```

```
        355                 360                 365

Leu Arg Met His Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys
    370                 375                 380

Gly Ser His Met Leu Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile Phe
385                 390                 395                 400

Met Tyr Leu Gln Pro Ser Ser Ser His Ala Leu Asp Thr Asp Lys Met
                405                 410                 415

Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu Ile
            420                 425                 430

Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu Ala Leu Lys Lys Ile Ile
        435                 440                 445

Ile Asn Lys Asn
    450

<210> 76
<211> 313
<212> PRT
<213> Hylobates lar

<400> 76
Met Ala Asn Glu Asn Tyr Thr Lys Val Thr Glu Phe Ile Phe Thr Gly
  1               5                  10                  15

Leu Asn Tyr Asn Pro Gln Leu Gln Val Phe Leu Phe Leu Leu Phe Leu
             20                  25                  30

Thr Phe Tyr Val Ile Ser Val Thr Gly Asn Phe Gly Met Ile Val Leu
         35                  40                  45

Ile Arg Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

His Leu Ser Phe Val Asp Ile Cys Phe Ser Ser Val Val Ser Pro Lys
 65                  70                  75                  80

Met Leu Thr Asp Phe Phe Val Lys Arg Lys Ala Ile Ser Phe Leu Gly
                 85                  90                  95

Cys Ala Leu Gln Gln Trp Phe Phe Gly Phe Phe Val Ala Ala Glu Cys
            100                 105                 110

Phe Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
        115                 120                 125

Pro Leu Leu Tyr Ser Val Phe Met Ser Gln Arg Leu Cys Ile Gln Leu
    130                 135                 140

Val Val Gly Pro Tyr Val Ile Gly Leu Met Asn Thr Met Thr His Thr
145                 150                 155                 160

Thr Asn Ala Phe Arg Leu Pro Phe Cys Gly Leu Asn Val Ile Asn His
```

```
                165                 170                 175

Phe Phe Cys Asp Met Ser Pro Leu Leu Ser Leu Val Cys Ala Asp Thr
            180                 185                 190

Arg Leu Asn Lys Leu Ala Val Phe Ile Met Ala Gly Ala Val Gly Val
        195                 200                 205

Phe Ser Gly Leu Thr Ile Leu Ile Ser Tyr Ile Tyr Ile Leu Met Ala
    210                 215                 220

Ile Leu Arg Ile Arg Ser Ala Asp Gly Arg Cys Lys Thr Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Leu Thr Ala Val Phe Ile Leu Tyr Gly Thr Leu Phe
                245                 250                 255

Phe Ile Tyr Val Arg Pro Ser Ala Ser Phe Pro Leu Asp Leu Asn Lys
            260                 265                 270

Val Val Ser Val Phe Tyr Thr Ala Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ile His Arg Thr
    290                 295                 300

Val Thr Gln Arg Lys Phe Cys Lys Ala
305                 310
```

<210> 77
<211> 313
<212> PRT
<213> Pongo pygmaeus

<400> 77

```
Met Ala Asn Glu Asn Tyr Thr Lys Val Thr Glu Phe Ile Phe Thr Gly
  1               5                  10                  15

Leu Asn Tyr Asn Pro Gln Leu Gln Val Phe Leu Phe Leu Leu Phe Leu
             20                  25                  30

Thr Phe Tyr Val Ile Ser Val Thr Gly Asn Leu Gly Met Ile Val Leu
         35                  40                  45

Ile Gln Ile Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

His Leu Ser Phe Val Asp Ile Cys Phe Ser Ser Val Val Ser Pro Lys
 65                  70                  75                  80

Met Leu Thr Asp Phe Phe Val Lys Arg Lys Ala Ile Ser Phe Leu Gly
                 85                  90                  95

Cys Ala Leu Gln Gln Arg Ser Phe Gly Phe Phe Val Ala Ala Glu Cys
            100                 105                 110

Phe Leu Leu Ala Ser Met Ala Tyr Asp His Tyr Val Ala Ile Cys Asn
```

```
        115                 120                 125

Pro Leu Leu Tyr Ser Val Ala Met Ser Gln Arg Leu Cys Ile Gln Leu
    130                 135                 140

Val Val Gly Pro Tyr Val Ile Gly Leu Met Asn Thr Met Thr His Thr
145                 150                 155                 160

Thr Asn Ala Phe His Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His
                165                 170                 175

Phe Phe Cys Asp Met Ser Pro Leu Leu Ser Leu Val Cys Ala Asp Thr
            180                 185                 190

Arg Leu Asn Lys Leu Ala Val Leu Ile Met Ala Gly Ala Val Gly Val
        195                 200                 205

Phe Ser Gly Leu Thr Ile Leu Ile Ser Tyr Ile Tyr Ile Leu Met Ala
    210                 215                 220

Ile Leu Arg Ile Arg Ser Ala Asp Gly Arg Tyr Lys Thr Phe Ser Thr
225                 230                 235                 240

Cys Ser Ser His Leu Thr Ala Val Phe Ile Leu Tyr Gly Thr Leu Phe
                245                 250                 255

Phe Ile Tyr Val Cys Pro Ser Ala Ser Phe Cys Leu Asp Leu Asn Lys
            260                 265                 270

Val Val Ser Val Phe Tyr Thr Ala Val Ile Pro Met Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ile His Arg Thr
    290                 295                 300

Phe Thr Gln Arg Lys Phe Cys Lys Ala
305                 310

<210> 78
<211> 322
<212> PRT
<213> Homo sapiens

<400> 78
Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys
  1               5                  10                  15

Asn Lys Thr Glu Val Thr Met Phe Ile Leu Thr Gly Phe Thr Asp Asp
             20                  25                  30

Phe Glu Leu Gln Val Phe Leu Phe Leu Leu Phe Phe Ala Ile Tyr Leu
         35                  40                  45

Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Leu Val Ile Glu Asp
     50                  55                  60

Ser Trp Leu His Asn Pro Met Tyr Tyr Phe Leu Ser Val Leu Ser Phe
```

```
 65                  70                  75                  80

Leu Asp Ala Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn
                 85                  90                  95

Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Ile Gly Cys Ala Thr Gln
            100                 105                 110

Met Leu Leu Phe Val Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala
        115                 120                 125

Ala Met Ala Tyr Asp His Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr
    130                 135                 140

Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser
145                 150                 155                 160

Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Ile Val Ala Thr Phe
                165                 170                 175

Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asp
            180                 185                 190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Thr Asn Gln
        195                 200                 205

Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu
    210                 215                 220

Ile Val Leu Ile Ser Cys Asp Phe Ile Leu Leu Ser Ile Leu Lys Met
225                 230                 235                 240

His Ser Ala Lys Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His
                245                 250                 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Val Ser Tyr Met
            260                 265                 270

Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile
        275                 280                 285

Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu
    290                 295                 300

Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val
305                 310                 315                 320

Tyr Lys


<210> 79
<211> 318
<212> PRT
<213> Homo sapiens

<400> 79
Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr
```

```
  1               5                  10                  15

Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile
             20                  25                  30

Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile
         35                  40                  45

Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu
     50                  55                  60

Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu
 65                  70                  75                  80

Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val
                 85                  90                  95

Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu
            100                 105                 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu
        115                 120                 125

Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn
    130                 135                 140

Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala
145                 150                 155                 160

Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe
                165                 170                 175

Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr
            180                 185                 190

Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr
        195                 200                 205

Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu
    210                 215                 220

Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly
225                 230                 235                 240

Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met
                245                 250                 255

Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val
            260                 265                 270

Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr
        275                 280                 285

Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly
    290                 295                 300

Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys
```

305 310 315

<210> 80
<211> 197
<212> PRT
<213> Homo sapiens

<400> 80
Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr Ser
1 5 10 15

Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser Tyr
20 25 30

Val Ala Ser Ile Leu His Ala Thr Ile His Thr Val Ala Thr Phe Ser
35 40 45

Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asn Met
50 55 60

Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Val Ile Gln Leu
65 70 75 80

Leu Phe Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu Ile
85 90 95

Val Leu Ile Ser Tyr Gly Phe Ile Leu Leu Ala Ile Leu Lys Met Gln
100 105 110

Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly Ala His Leu
115 120 125

Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Phe Met Tyr Val Arg
130 135 140

Pro Ser Ser Ser Tyr Thr Ser Asp Asn Asp Met Ile Val Ser Ile Phe
145 150 155 160

Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg
165 170 175

Asn Lys Asp Val Lys Glu Ala Ile Lys Arg Leu Leu Val Arg Asn Trp
180 185 190

Phe Ile Asn Lys Leu
195

<210> 81
<211> 313
<212> PRT
<213> Homo sapiens

<400> 81
Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu
1 5 10 15

Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala

```
            20                  25                  30

Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met
         35                  40                  45

Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe
     50                  55                  60

Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val
 65                  70                  75                  80

Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser
                 85                  90                  95

Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly
            100                 105                 110

Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala
        115                 120                 125

Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys
    130                 135                 140

Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala
145                 150                 155                 160

Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg
                165                 170                 175

Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys
            180                 185                 190

Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe
        195                 200                 205

Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile
    210                 215                 220

Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala
225                 230                 235                 240

Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly
                245                 250                 255

Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu
            260                 265                 270

Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu
        275                 280                 285

Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu
    290                 295                 300

Lys Lys Ile Leu Trp Lys His Ile Leu
305                 310
```

<210> 82

<211> 311
<212> PRT
<213> Canis familiaris

<400> 82
Met Asp Gly Lys Asn Cys Ser Ser Val Asn Glu Phe Leu Leu Val Gly
1 5 10 15

Ile Ser Asn Lys Pro Gly Val Lys Val Thr Leu Phe Ile Thr Phe Leu
20 25 30

Ile Val Tyr Leu Ile Ile Leu Val Ala Asn Leu Gly Met Ile Ile Leu
35 40 45

Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

His Leu Ser Phe Ser Asp Ala Arg Tyr Ser Thr Ala Val Gly Pro Arg
65 70 75 80

Met Leu Val Gly Phe Ile Ala Lys Asn Lys Ser Ile Pro Phe Tyr Ser
85 90 95

Cys Ala Met Gln Trp Leu Val Phe Cys Thr Phe Val Asp Ser Glu Cys
100 105 110

Leu Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ser His
115 120 125

Pro Leu Leu Tyr Thr Val Ser Met Ser Ser Arg Val Cys Ser Leu Leu
130 135 140

Met Ala Gly Val Tyr Leu Val Gly Ile Met Asp Ala Ser Val Asn Thr
145 150 155 160

Ile Leu Thr Phe Arg Leu Cys Phe Cys Glu Ser Asn Val Ile Asn His
165 170 175

Phe Phe Cys Asp Val Pro Pro Leu Leu Leu Leu Ser Cys Ser Asp Thr
180 185 190

Gln Val Asn Glu Leu Val Ile Phe Thr Ile Phe Gly Phe Ile Glu Leu
195 200 205

Ile Thr Leu Ser Gly Leu Phe Val Ser Tyr Cys Tyr Ile Ile Leu Ala
210 215 220

Val Arg Lys Ile Asn Ser Ala Glu Gly Arg Phe Lys Ala Phe Ser Thr
225 230 235 240

Cys Thr Ser His Leu Thr Ala Val Ala Ile Phe Gln Gly Thr Met Leu
245 250 255

Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys
260 265 270

Ile Ile Ser Leu Phe Tyr Ser Leu Val Ile Pro Met Leu Asn Pro Leu

```
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu
    290                 295                 300

Lys Asn Lys Lys Trp Phe His
305                 310

<210> 83
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence:  Domain

<400> 83
Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
  1               5                  10                  15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
             20                  25                  30

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
         35                  40                  45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
     50                  55                  60

Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
 65                  70                  75                  80

Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
                 85                  90                  95

Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
            100                 105                 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
        115                 120                 125

Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
    130                 135                 140

Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
145                 150                 155                 160

Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
                165                 170                 175

Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
            180                 185                 190

Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
        195                 200                 205

Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
```

```
    210                 215                 220

Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
225                 230                 235                 240

Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
                245                 250
```

<210> 84
<211> 313
<212> PRT
<213> Homo sapiens

<400> 84

```
Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly
  1               5                  10                  15

Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu
             20                  25                  30

Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr
         35                  40                  45

Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln
 65                  70                  75                  80

Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly
                 85                  90                  95

Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser
            100                 105                 110

Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
        115                 120                 125

Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu
    130                 135                 140

Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr
145                 150                 155                 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His
                165                 170                 175

Phe Leu Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val
            180                 185                 190

Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Asp Leu Leu Ala Leu
        195                 200                 205

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr
    210                 215                 220

Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr
```

```
225                 230                 235                 240

Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile
                245                 250                 255

Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr
            260                 265                 270

Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met
    290                 295                 300

Leu Leu Lys Cys Thr Val Phe Gln Gln
305                 310

<210> 85
<211> 216
<212> PRT
<213> Homo sapiens

<400> 85
Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln Met Val Val
  1               5                  10                  15

Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly Cys Leu Thr
             20                  25                  30

Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser Leu Leu Leu
         35                  40                  45

Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu His
     50                  55                  60

Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu Val Ala Gly
 65                  70                  75                  80

Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr Val Leu Ile
                 85                  90                  95

Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His Phe Leu Cys
            100                 105                 110

Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val Ser Phe Asn
        115                 120                 125

Val Met Ile Ile Phe Ala Val Gly Asp Leu Leu Ala Leu Thr Pro Leu
    130                 135                 140

Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr Val Leu Lys
145                 150                 155                 160

Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr Cys Ser Cys
                165                 170                 175

His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile Ala Val Tyr
```

```
            180                 185                 190

Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr Leu Ser Thr
        195                 200                 205

Ile Met Tyr Ser Met Val Ala Pro
    210                 215

<210> 86
<211> 312
<212> PRT
<213> Homo sapiens

<400> 86
Met Ser Gly Thr Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
  1               5                  10                  15

Leu Ser Arg Gln Pro Gln Gln Gln His Leu Leu Phe Val Phe Phe Leu
             20                  25                  30

Ser Met Tyr Leu Ala Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ser
         35                  40                  45

Val Ser Ile Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Asn Leu Ser Phe Val Asp Ile Cys Phe Ser Phe Thr Thr Val Pro Lys
 65                  70                  75                  80

Met Leu Ala Asn His Ile Leu Glu Thr Gln Thr Ile Ser Phe Cys Gly
                 85                  90                  95

Cys Leu Thr Gln Met Tyr Phe Val Phe Met Phe Val Asp Met Asp Asn
            100                 105                 110

Phe Leu Leu Ala Val Met Ala Tyr Asp His Phe Val Ala Val Cys His
        115                 120                 125

Pro Leu His Tyr Thr Ala Lys Met Thr His Gln Leu Cys Ala Leu Leu
    130                 135                 140

Val Ala Gly Leu Trp Val Val Ala Asn Leu Asn Val Leu Leu His Thr
145                 150                 155                 160

Leu Leu Met Ala Pro Leu Ser Phe Cys Ala Asp Asn Ala Ile Thr His
                165                 170                 175

Phe Phe Cys Asp Val Thr Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr
            180                 185                 190

His Leu Asn Glu Val Ile Ile Leu Ser Glu Gly Ala Leu Val Met Ile
        195                 200                 205

Thr Pro Phe Leu Cys Ile Leu Ala Ser Tyr Met His Ile Thr Cys Thr
    210                 215                 220

Val Leu Lys Val Pro Ser Thr Lys Gly Arg Trp Lys Ala Phe Ser Thr
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225                 230                 235                 240

Cys Gly Ser His Leu Ala Val Val Leu Leu Phe Tyr Ser Thr Ile Ile
                245                 250                 255

Ala Val Tyr Phe Asn Pro Leu Ser Ser His Ser Ala Glu Lys Asp Thr
            260                 265                 270

Met Ala Thr Val Leu Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Arg Tyr Leu Lys Gly Ala Leu Lys Lys Val
    290                 295                 300

Val Gly Arg Val Val Phe Ser Val
305                 310
```

<210> 87
<211> 312
<212> PRT
<213> Homo sapiens

<400> 87

```
Met Ser Gly Thr Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
  1               5                  10                  15

Leu Ser Arg Gln Pro Gln Gln Gln His Leu Leu Phe Val Phe Phe Leu
             20                  25                  30

Ser Met Tyr Leu Ala Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ser
         35                  40                  45

Val Ser Ile Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Asn Leu Ser Phe Val Asp Ile Cys Phe Ser Phe Thr Thr Val Pro Lys
 65                  70                  75                  80

Met Leu Ala Asn His Ile Leu Glu Thr Gln Thr Ile Ser Phe Cys Gly
                 85                  90                  95

Cys Leu Thr Gln Met Tyr Phe Val Phe Met Phe Val Asp Met Asp Asn
            100                 105                 110

Phe Leu Leu Ala Val Met Ala Tyr Asp His Phe Val Ala Val Cys His
        115                 120                 125

Pro Leu His Tyr Thr Ala Lys Met Thr His Gln Leu Cys Ala Leu Leu
    130                 135                 140

Val Ala Gly Leu Trp Val Val Ala Asn Leu Asn Val Leu Leu His Thr
145                 150                 155                 160

Leu Leu Met Ala Pro Leu Ser Phe Cys Ala Asp Asn Ala Ile Thr His
                165                 170                 175

Phe Phe Cys Asp Val Thr Pro Leu Leu Lys Leu Ser Cys Ser Asn Thr
```

```
            180                 185                 190

His Leu Asn Glu Val Ile Ile Leu Ser Glu Gly Ala Leu Val Met Ile
        195                 200                 205

Thr Pro Phe Leu Cys Ile Leu Ala Ser Tyr Met His Ile Thr Cys Thr
    210                 215                 220

Val Leu Lys Val Pro Ser Thr Lys Gly Arg Trp Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Ala Val Val Leu Leu Phe Tyr Ser Thr Ile Ile
                245                 250                 255

Ala Val Tyr Phe Asn Pro Leu Ser Ser His Ser Ala Glu Lys Asp Thr
            260                 265                 270

Met Ala Thr Val Leu Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Arg Tyr Leu Lys Gly Ala Leu Lys Lys Val
    290                 295                 300

Ile Gly Arg Val Val Phe Ser Val
305                 310
```

<210> 88
<211> 313
<212> PRT
<213> Rattus norvegicus

<400> 88

```
Met Ser Ser Thr Asn Gln Ser Ser Val Thr Glu Phe Leu Leu Leu Gly
  1               5                  10                  15

Leu Ser Arg Gln Pro Gln Gln Gln Gln Leu Leu Phe Leu Leu Phe Leu
             20                  25                  30

Ile Met Tyr Leu Ala Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala
         35                  40                  45

Ile Gly Thr Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser
     50                  55                  60

Asn Leu Ser Phe Val Asp Val Cys Phe Ser Ser Thr Thr Val Pro Lys
 65                  70                  75                  80

Val Leu Ala Asn His Ile Leu Gly Ser Gln Ala Ile Ser Phe Ser Gly
                 85                  90                  95

Cys Leu Thr Gln Leu Tyr Phe Leu Ala Val Phe Gly Asn Met Asp Asn
            100                 105                 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Val Ala Ile Cys His
        115                 120                 125

Pro Leu His Tyr Thr Thr Lys Met Thr Arg Gln Leu Cys Val Leu Leu
```

```
    130                 135                 140

Val Val Gly Ser Trp Val Val Ala Asn Met Asn Cys Leu Leu His Ile
145                 150                 155                 160

Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Asp Asn Met Ile Pro His
                165                 170                 175

Phe Phe Cys Asp Gly Thr Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr
            180                 185                 190

His Leu Asn Glu Leu Met Ile Leu Thr Glu Gly Ala Val Val Met Val
        195                 200                 205

Thr Pro Phe Val Cys Ile Leu Ile Ser Tyr Ile His Ile Thr Cys Ala
    210                 215                 220

Val Leu Arg Val Ser Ser Pro Arg Gly Gly Trp Lys Ser Phe Ser Thr
225                 230                 235                 240

Cys Gly Ser His Leu Ala Val Val Cys Leu Phe Tyr Gly Thr Val Ile
                245                 250                 255

Ala Val Tyr Phe Asn Pro Ser Ser Ser His Leu Ala Gly Arg Asp Met
            260                 265                 270

Ala Ala Ala Val Met Tyr Ala Val Val Thr Pro Met Leu Asn Pro Phe
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Ser Asp Met Lys Ala Ala Leu Arg Lys Val
    290                 295                 300

Leu Ala Met Arg Phe Pro Ser Lys Gln
305                 310

<210> 89
<211> 314
<212> PRT
<213> Homo sapiens

<400> 89
Met Lys Arg Gln Asn Gln Ser Cys Val Val Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Phe Ser Asn Phe Pro Glu Leu Gln Val Gln Leu Phe Gly Val Phe Leu
             20                  25                  30

Val Ile Tyr Val Val Thr Leu Met Gly Asn Ala Ile Ile Thr Val Ile
         35                  40                  45

Ile Ser Leu Asn Gln Ser Leu His Val Pro Met Tyr Leu Phe Leu Leu
     50                  55                  60

Asn Leu Ser Val Val Glu Val Ser Phe Ser Ala Val Ile Thr Pro Glu
 65                  70                  75                  80

Met Leu Val Val Leu Ser Thr Glu Lys Thr Met Ile Ser Phe Val Gly
```

```
                85                  90                  95

Cys Phe Ala Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Thr Glu Cys
            100                 105                 110

Phe Leu Leu Gly Ala Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His
        115                 120                 125

Pro Leu Asn Tyr Pro Val Ile Met Asn Arg Gly Val Phe Met Lys Leu
    130                 135                 140

Val Ile Phe Ser Trp Ile Ser Gly Ile Met Val Ala Thr Val Gln Thr
145                 150                 155                 160

Thr Trp Val Phe Ser Phe Pro Phe Cys Gly Pro Asn Glu Ile Asn His
                165                 170                 175

Leu Phe Cys Glu Thr Pro Pro Val Leu Glu Leu Val Cys Ala Asp Thr
            180                 185                 190

Phe Leu Phe Glu Ile Tyr Ala Phe Thr Gly Thr Ile Leu Ile Val Met
        195                 200                 205

Val Pro Phe Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala
    210                 215                 220

Ile Leu Lys Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ala Ser His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Asn
                245                 250                 255

Met Thr Tyr Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys
            260                 265                 270

Leu Ile Ser Leu Ala Tyr Thr Leu Leu Thr Pro Leu Leu Asn Pro Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Ser Glu Met Lys Arg Thr Leu Ile Lys Leu
    290                 295                 300

Trp Arg Arg Lys Val Ile Leu His Thr Phe
305                 310

<210> 90
<211> 314
<212> PRT
<213> Homo sapiens

<400> 90
Met Glu Arg Gln Asn Gln Ser Cys Val Val Glu Phe Ile Leu Leu Gly
  1               5                  10                  15

Phe Ser Asn Tyr Pro Glu Leu Gln Gly Gln Leu Phe Val Ala Phe Leu
             20                  25                  30

Val Ile Tyr Leu Val Thr Leu Ile Gly Asn Ala Ile Ile Ile Val Ile
```

```
         35                  40                  45

Val Ser Leu Asp Gln Ser Leu His Val Pro Met Tyr Leu Phe Leu Leu
     50                  55                  60

Asn Leu Ser Val Val Asp Leu Ser Phe Ser Ala Val Ile Met Pro Glu
 65                  70                  75                  80

Met Leu Val Val Leu Ser Thr Glu Lys Thr Thr Ile Ser Phe Gly Gly
                 85                  90                  95

Cys Phe Ala Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Ala Glu Cys
            100                 105                 110

Phe Leu Leu Gly Ala Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His
        115                 120                 125

Pro Leu Asn Tyr Gln Met Ile Met Asn Lys Gly Val Phe Met Lys Leu
    130                 135                 140

Ile Ile Phe Ser Trp Ala Leu Gly Phe Met Leu Gly Thr Val Gln Thr
145                 150                 155                 160

Ser Trp Val Ser Ser Phe Pro Phe Cys Gly Leu Asn Glu Ile Asn His
                165                 170                 175

Ile Ser Cys Glu Thr Pro Ala Val Leu Glu Leu Ala Cys Ala Asp Thr
            180                 185                 190

Phe Leu Phe Glu Ile Tyr Ala Phe Thr Gly Thr Phe Leu Ile Ile Leu
        195                 200                 205

Val Pro Phe Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala
    210                 215                 220

Ile Leu Lys Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr
225                 230                 235                 240

Cys Ala Ala His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Ser
                245                 250                 255

Met Thr Tyr Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys
            260                 265                 270

Val Met Ser Leu Ser Tyr Ser Leu Leu Thr Pro Leu Leu Asn Leu Leu
        275                 280                 285

Ile Tyr Ser Leu Arg Asn Ser Glu Met Lys Arg Ala Leu Met Lys Leu
    290                 295                 300

Trp Arg Arg Arg Val Val Leu His Thr Ile
305                 310
```

<210> 91
<211> 217
<212> PRT
<213> Homo sapiens

<400> 91
Val Val Glu Val Ser Phe Ser Ala Val Ile Thr Pro Glu Met Leu Val
1 5 10 15

Val Leu Ser Thr Glu Lys Thr Met Ile Ser Phe Val Gly Cys Phe Ala
20 25 30

Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Thr Glu Cys Phe Leu Leu
35 40 45

Gly Ala Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His Pro Leu Asn
50 55 60

Tyr Pro Val Ile Met Asn Arg Gly Val Phe Met Lys Leu Val Ile Phe
65 70 75 80

Ser Trp Ile Ser Gly Ile Met Val Ala Thr Val Gln Thr Thr Trp Val
85 90 95

Phe Ser Phe Pro Phe Cys Gly Pro Asn Glu Ile Asn His Leu Phe Cys
100 105 110

Glu Thr Pro Pro Val Leu Glu Leu Val Cys Ala Asp Thr Phe Leu Phe
115 120 125

Glu Ile Tyr Ala Phe Thr Gly Thr Ile Leu Ile Val Met Val Pro Phe
130 135 140

Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala Ile Leu Lys
145 150 155 160

Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser
165 170 175

His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Asn Met Thr Tyr
180 185 190

Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys Leu Ile Ser
195 200 205

Leu Ala Tyr Thr Leu Leu Thr Pro Leu
210 215

<210> 92
<211> 317
<212> PRT
<213> Homo sapiens

<400> 92
Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe Ile Leu Met Ser
1 5 10 15

Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu Phe Leu Thr Phe
20 25 30

Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser Leu Ile Ile Leu

```
         35                  40                  45

Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met Tyr Phe Phe Leu
     50                  55                  60

Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu Val Ile Val Pro
 65                  70                  75                  80

Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr Ile Ser Phe Leu
                 85                  90                  95

Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Val Ala Glu
            100                 105                 110

Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
        115                 120                 125

Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg Thr Arg Ala Lys
    130                 135                 140

Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val Ala Thr Val Gln
145                 150                 155                 160

Thr Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr Asn Lys Val Asn
                165                 170                 175

His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu Val Cys Ala Asp
            180                 185                 190

Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr Ile Leu Val Val
        195                 200                 205

Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr Arg Ile Ala Ala
    210                 215                 220

Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His Lys Ala Phe Ser
225                 230                 235                 240

Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Tyr Ile Ser Ser
                245                 250                 255

Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser Pro Glu Ser Lys
            260                 265                 270

Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro Met Leu Asn Pro
        275                 280                 285

Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn Ala Leu Ser Arg
    290                 295                 300

Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile Pro
305                 310                 315

<210> 93
<211> 315
<212> PRT
<213> Mus musculus
```

<400> 93

```
Met Thr Trp Gly Asn Trp Thr Thr Val Arg Glu Phe Ile Leu Met Ser
  1               5                  10                  15

Phe Ser Ser Leu Ser Tyr Glu Val Gln Ala Leu Leu Phe Leu Leu Phe
             20                  25                  30

Leu Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Val Leu Ile Ile Leu
         35                  40                  45

Val Thr Thr Ala Asp Ser Ala Leu Gln Ser Pro Met Tyr Phe Phe Leu
     50                  55                  60

Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu Val Ile Val Pro
 65                  70                  75                  80

Lys Met Leu Ser Thr Leu Ile Leu Gln Asp Lys Thr Ile Ser Phe Leu
                 85                  90                  95

Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Ala Ala Glu
            100                 105                 110

Cys Cys Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys
        115                 120                 125

Asp Pro Leu His Tyr Pro Ile Ile Met Ser Arg Arg Ser Cys Ala Gln
    130                 135                 140

Leu Ala Ala Ala Ser Trp Phe Ser Gly Phe Pro Val Ala Thr Val Gln
145                 150                 155                 160

Thr Thr Trp Ile Phe Ser Phe Pro Phe Cys Gly Pro Asn Met Val Asn
                165                 170                 175

His Phe Phe Cys Asp Ser Pro Pro Val Ile Ala Leu Val Cys Ala Asp
            180                 185                 190

Thr Ser Leu Phe Glu Leu Glu Ala Leu Thr Ala Thr Val Leu Phe Ile
        195                 200                 205

Leu Phe Pro Phe Leu Leu Ile Leu Gly Ser Tyr Val Arg Ile Leu Ser
    210                 215                 220

Thr Ile Phe Arg Met Pro Ser Ala Glu Gly Lys Arg Lys Ala Phe Ser
225                 230                 235                 240

Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Tyr Ser Thr Ala
                245                 250                 255

Ile Leu Thr Tyr Phe Arg Pro Arg Ser Asn Thr Ser Pro Glu Asn Lys
            260                 265                 270

Lys Met Leu Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro
        275                 280                 285

Ile Ile Tyr Ser Leu Arg Asn Asn Glu Val Lys Ala Ala Leu Arg Arg
```

```
    290                 295                 300

Ile Ile His Arg Thr Leu Gly Pro Gln Lys Leu
305                 310                 315

<210> 94
<211> 313
<212> PRT
<213> Homo sapiens

<400> 94
Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu
  1               5                  10                  15

Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro
             20                  25                  30

Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe
         35                  40                  45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys
     50                  55                  60

Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile
 65                  70                  75                  80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe
                 85                  90                  95

Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met
            100                 105                 110

Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile
        115                 120                 125

Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser
    130                 135                 140

Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro
145                 150                 155                 160

Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile
                165                 170                 175

Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala
            180                 185                 190

Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu
        195                 200                 205

Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr
    210                 215                 220

Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn
225                 230                 235                 240

Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala
```

```
                245                 250                 255

Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr
            260                 265                 270

Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu
        275                 280                 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val
    290                 295                 300

Leu Arg Ile Phe Phe Lys Thr Asp His
305                 310

<210> 95
<211> 340
<212> PRT
<213> Homo sapiens

<400> 95
Met Glu Ser Ile Val Leu Leu Val Met Gly Phe Asp Arg Tyr Val Ala
  1               5                  10                  15

Ile Cys Asn Pro Phe Arg Ile Leu Cys Thr Val Phe His Leu Pro Ser
             20                  25                  30

Gln Glu Ala His Leu Lys Ala Leu Asn Thr Cys Ser Ser His Ile Cys
         35                  40                  45

Val Ile Leu Ala Phe Phe Gly Pro Ala Leu Phe Ser Phe Leu Thr His
     50                  55                  60

Arg Phe Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Gln Glu Arg Thr
 65                  70                  75                  80

Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu Asp
                 85                  90                  95

Ser Ile Asp Leu Gly Leu Ser Thr Ala Thr Ile Pro Lys Met Leu Gly
            100                 105                 110

Ile Phe Trp Phe Asn Thr Lys Glu Ile Ser Phe Gly Gly Cys Leu Ser
        115                 120                 125

His Met Phe Phe Ile His Phe Phe Thr Ala Met Glu Ser Ile Val Leu
    130                 135                 140

Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Lys Pro Leu Arg
145                 150                 155                 160

Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser Leu Ile Ala Gly Ile
                165                 170                 175

Ala Val Leu Arg Ser Leu Tyr Met Val Val Pro Leu Val Phe Leu Leu
            180                 185                 190

Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile Pro His Thr Tyr Cys
```

```
        195                 200                 205

Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala Ser Ile Lys Val Asn
    210                 215                 220

Ile Arg Phe Gly Leu Gly Asn Ile Ser Leu Leu Leu Leu Asp Val Ile
225                 230                 235                 240

Leu Ile Ile Leu Ser Tyr Val Arg Ile Leu Tyr Ala Val Phe Cys Leu
                245                 250                 255

Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn Thr Cys Gly Ser His
            260                 265                 270

Ile Gly Val Ile Leu Ala Phe Phe Thr Pro Ala Phe Phe Ser Phe Leu
        275                 280                 285

Thr His Arg Phe Gly His Asn Ile Pro Gln Tyr Ile His Ile Ile Leu
    290                 295                 300

Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu Asn Pro Val Ile Tyr
305                 310                 315                 320

Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val Leu Arg Ile Phe Leu
                325                 330                 335

Lys Thr Asn His
            340

<210> 96
<211> 327
<212> PRT
<213> Homo sapiens

<400> 96
Met Leu His Thr Asn Asn Thr Gln Phe His Pro Ser Thr Phe Leu Val
  1               5                  10                  15

Val Gly Val Pro Gly Leu Glu Asp Val His Val Trp Ile Gly Phe Pro
             20                  25                  30

Phe Phe Ala Val Tyr Leu Thr Ala Leu Leu Gly Asn Ile Ile Ile Leu
         35                  40                  45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Gln Pro Met Phe Tyr Phe
     50                  55                  60

Leu Ala Met Leu Ala Gly Thr Asp Leu Gly Leu Ser Thr Ala Thr Ile
 65                  70                  75                  80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gly Glu Ile Ala Phe
                 85                  90                  95

Gly Ala Cys Ile Thr Gln Met Tyr Thr Ile His Ile Cys Thr Gly Leu
            100                 105                 110

Glu Ser Val Val Leu Thr Val Thr Gly Ile Asp Arg Tyr Ile Ala Ile
```

```
        115                 120                 125

Cys Asn Pro Leu Arg Tyr Ser Met Ile Leu Thr Asn Lys Val Ile Ala
    130                 135                 140

Ile Leu Gly Ile Val Ile Ile Val Arg Thr Leu Val Phe Val Thr Pro
145                 150                 155                 160

Phe Thr Phe Leu Thr Leu Arg Leu Pro Phe Cys Gly Val Arg Ile Ile
                165                 170                 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala Lys Leu Ala Cys Ala
            180                 185                 190

Ser Ile Asn Val Ile Tyr Gly Leu Ile Ala Phe Ser Val Gly Tyr Ile
        195                 200                 205

Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val
    210                 215                 220

Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys
225                 230                 235                 240

Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe
                245                 250                 255

Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His
            260                 265                 270

Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser
        275                 280                 285

Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg
    290                 295                 300

Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe
305                 310                 315                 320

His Asn Asn Ser Val Arg Gln
                325

<210> 97
<211> 325
<212> PRT
<213> Homo sapiens

<400> 97
Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu
  1               5                  10                  15

Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro
             20                  25                  30

Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu
         35                  40                  45

Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe
```

```
     50                  55                  60

Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile
 65                  70                  75                  80

Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe
                 85                  90                  95

Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met
            100                 105                 110

Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile
        115                 120                 125

Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser
    130                 135                 140

Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro
145                 150                 155                 160

Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile
                165                 170                 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala
            180                 185                 190

Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu
        195                 200                 205

Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys
    210                 215                 220

Ala Val Phe Arg Leu Pro Thr His Glu Ala Arg Leu Lys Ser Leu Ser
225                 230                 235                 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala
                245                 250                 255

Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr
            260                 265                 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu
        275                 280                 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val
    290                 295                 300

Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu
305                 310                 315                 320

Ile His Thr Arg Phe
                325

<210> 98
<211> 318
<212> PRT
<213> Mus musculus
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<220>
<221> misc_feature
<222> (286)..(286)
<223> Wherein Xaa may be any naturally occurring amino acid

<400> 98
Met Ser Pro Gly Asn Ser Ser Trp Ile His Pro Ser Ser Phe Leu Leu
1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Glu Leu Gln Phe Trp Leu Gly Leu Pro
20 25 30

Phe Gly Thr Val Tyr Leu Ile Ala Val Leu Gly Asn Val Ile Ile Leu
35 40 45

Phe Val Ile Tyr Leu Glu His Ser Leu His Gln Pro Met Phe Tyr Leu
50 55 60

Leu Ala Ile Leu Ala Val Thr Asp Leu Gly Leu Ser Thr Ala Thr Val
65 70 75 80

Pro Arg Ala Leu Gly Ile Phe Trp Phe Gly Phe His Lys Ile Ala Phe
85 90 95

Arg Asp Cys Val Ala Gln Met Phe Phe Ile His Leu Phe Thr Gly Ile
100 105 110

Glu Thr Phe Met Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile
115 120 125

Cys Asn Pro Leu Arg Tyr Asn Thr Ile Leu Thr Asn Arg Thr Ile Cys
130 135 140

Ile Ile Val Gly Val Gly Leu Phe Lys Asn Phe Ile Leu Val Phe Pro
145 150 155 160

Leu Ile Phe Leu Ile Leu Arg Leu Ser Phe Cys Gly His Asn Ile Ile
165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Val
180 185 190

Ser Ile Lys Val Asn Val Leu Phe Gly Leu Ile Leu Ile Ser Met Ile
195 200 205

Leu Leu Asp Val Val Leu Ser Ala Leu Ser Tyr Ala Lys Ile Leu His
210 215 220

Ala Val Phe Lys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn
225 230 235 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Phe Thr Pro Ala
245 250 255

Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn Ile Pro Arg Tyr
260 265 270

```
Ile His Ile Leu Leu Ala Asn Leu Tyr Val Ile Ile Pro Xaa Ala Leu
        275                 280                 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gln Asp Arg Ala
    290                 295                 300

Val Thr Ile Leu Cys Asn Glu Val Gly Gln Leu Ala Asp Asp
305                 310                 315
```

<210> 99
<211> 216
<212> PRT
<213> Homo sapiens

<400> 99

```
Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val Pro Lys Met Leu Val
  1               5                  10                  15

Asn Phe Leu Ser Glu Thr Lys Val Ile Ser Tyr Val Gly Cys Leu Ala
             20                  25                  30

Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr Asp Ser Tyr Leu Leu
         35                  40                  45

Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys Asn Pro Leu His
     50                  55                  60

Tyr Asp Val Val Met Lys Pro Arg His Cys Leu Leu Met Leu Leu Gly
 65                  70                  75                  80

Ser Cys Ser Ile Ser His Leu His Ser Leu Phe Arg Val Leu Leu Met
                 85                  90                  95

Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile Lys His Phe Phe Cys
            100                 105                 110

Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp Thr Ser Ser Ser
        115                 120                 125

Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile Val Thr Pro Phe
    130                 135                 140

Leu Cys Ile Ile Phe Ser Tyr Leu Arg Ile Met Val Thr Val Leu Arg
145                 150                 155                 160

Ile Pro Ser Ala Ala Gly Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser
                165                 170                 175

His Leu Thr Ala Val Ala Leu Phe Tyr Gly Ser Ile Ile Tyr Val Tyr
            180                 185                 190

Phe Arg Pro Leu Ser Met Tyr Ser Val Val Arg Asp Arg Val Ala Thr
        195                 200                 205

Val Met Tyr Thr Val Val Thr Pro
    210                 215
```

<210> 100
<211> 216
<212> PRT
<213> Homo sapiens

<400> 100
Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val Pro Lys Met Leu Val
1 5 10 15

Asn Phe Leu Ser Glu Thr Lys Ile Ile Ser Tyr Val Gly Cys Leu Ile
20 25 30

Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr Asp Ser Tyr Leu Leu
35 40 45

Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys Asn Pro Leu His
50 55 60

Tyr Asp Val Val Met Lys Pro Trp His Cys Leu Leu Met Leu Leu Gly
65 70 75 80

Ser Cys Ser Ile Ser His Leu His Ser Leu Phe Arg Val Leu Leu Met
85 90 95

Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile Lys His Phe Phe Cys
100 105 110

Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp Thr Ser Ser Ser
115 120 125

Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile Val Thr Pro Phe
130 135 140

Leu Cys Thr Ile Phe Ser Tyr Leu Gln Ile Ile Val Thr Val Leu Arg
145 150 155 160

Ile Pro Ser Ala Ala Arg Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser
165 170 175

His Leu Thr Val Val Val Leu Phe Tyr Gly Ser Val Ile Tyr Val Tyr
180 185 190

Phe Arg Pro Leu Ser Met Tyr Ser Val Met Lys Gly Arg Val Ala Thr
195 200 205

Val Met Tyr Thr Val Val Thr Pro
210 215

<210> 101
<211> 216
<212> PRT
<213> Callithrix jacchus

<400> 101
Phe Thr Asp Ile Cys Phe Thr Thr Val Ile Val Pro Arg Met Leu Val
1 5 10 15

```
Asn Phe Leu Ser Gly Thr Lys Val Ile Pro Tyr Met Gly Cys Leu Val
             20                  25                  30

Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr Asp Ser Tyr Leu Leu
         35                  40                  45

Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys Asn Pro Leu His
     50                  55                  60

Tyr Asp Val Ala Met Asn Pro Arg His Cys Leu Leu Met Leu Leu Gly
 65                  70                  75                  80

Ser Cys Ser Ile Ser His Leu His Ser Leu Phe Arg Val Leu Leu Met
                 85                  90                  95

Ser His Leu Ser Phe Cys Ala Ser His Val Ile Lys His Phe Phe Cys
            100                 105                 110

Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp Thr Ser Ser Ser
        115                 120                 125

Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile Val Thr Pro Phe
    130                 135                 140

Leu Cys Ile Ile Phe Ser Tyr Leu Arg Ile Ile Ile Thr Val Leu Arg
145                 150                 155                 160

Ile Pro Phe Ala Ala Gly Lys Trp Arg Ala Phe Ser Thr Cys Gly Ser
                165                 170                 175

His Leu Thr Val Val Ala Leu Phe Tyr Gly Ser Ile Tyr Tyr Val Tyr
            180                 185                 190

Phe Arg Pro Leu Ser Met Tyr Ser Val Val Lys Asp Arg Val Ala Thr
        195                 200                 205

Val Met Tyr Thr Val Val Thr Pro
    210                 215
```

<210> 102
<211> 216
<212> PRT
<213> Callithrix jacchus

```
<400> 102
Phe Thr Asp Ile Cys Phe Thr Thr Val Ile Val Pro Arg Met Leu Val
  1               5                  10                  15

Asn Phe Leu Ser Glu Thr Lys Val Ile Ser Tyr Met Gly Cys Leu Val
             20                  25                  30

Pro Met Tyr Phe Phe Met Ala Phe Ala Asn Thr Asp Ser Tyr Leu Leu
         35                  40                  45

Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys Asn Pro Leu His
     50                  55                  60
```

```
Tyr Asp Val Ala Met Asn Ser Arg Arg Cys Leu Leu Met Leu Leu Gly
 65                  70                  75                  80

Ser Cys Ser Ile Ser His Leu His Ser Leu Phe Arg Val Leu Leu Met
                 85                  90                  95

Ser Arg Leu Ser Phe Cys Ala Ser His Val Ile Lys His Phe Phe Cys
            100                 105                 110

Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp Thr Ser Ser Ser
        115                 120                 125

Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile Val Thr Pro Phe
    130                 135                 140

Leu Cys Ile Ile Phe Ser Tyr Leu Arg Ile Ile Ile Thr Val Leu Arg
145                 150                 155                 160

Ile Pro Ser Ala Ala Gly Lys Trp Arg Ala Phe Ser Thr Cys Gly Ser
                165                 170                 175

His Leu Thr Val Val Ala Leu Phe Tyr Gly Ser Ile Ile Tyr Val Tyr
            180                 185                 190

Phe Arg Pro Leu Ser Met Tyr Ser Val Val Lys Asp Arg Val Ala Thr
        195                 200                 205

Val Met Tyr Thr Val Val Thr Pro
    210                 215
```

<210> 103
<211> 216
<212> PRT
<213> Eulemur rubriventer

<400> 103

```
Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val Pro Lys Met Leu Val
  1               5                  10                  15

Asn Phe Leu Ser Glu Thr Lys Ala Ile Ser Tyr Val Gly Cys Leu Val
             20                  25                  30

Gln Met Tyr Phe Phe Met Ala Leu Ala Asn Thr Asp Ser Tyr Leu Leu
         35                  40                  45

Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys Lys Pro Phe His
     50                  55                  60

Tyr Asp Val Val Met Ser Pro Arg Arg Cys Leu Leu Met Leu Leu Gly
 65                  70                  75                  80

Ser Cys Thr Ile Ser His Leu His Ser Leu Phe Arg Val Leu Leu Met
                 85                  90                  95

Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile Lys His Phe Phe Cys
            100                 105                 110
```

```
Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp Thr Ser Ser Ser
        115                 120                 125

Gln Ile Val Val Met Thr Glu Thr Leu Ala Val Ile Val Thr Pro Phe
    130                 135                 140

Leu Cys Ile Ile Phe Ser Tyr Leu Arg Ile Ile Ile Thr Val Leu Ala
145                 150                 155                 160

Ile Pro Ser Ala Ala Gly Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser
                165                 170                 175

His Leu Thr Val Val Val Leu Phe Tyr Gly Ser Val Ile Tyr Val Tyr
            180                 185                 190

Phe Arg Pro Leu Ser Met Tyr Ser Val Met Lys Asp Arg Val Ala Thr
        195                 200                 205

Val Met Tyr Thr Val Val Thr Pro
    210                 215

<210> 104
<211> 910
<212> PRT
<213> Homo sapiens

<400> 104
Met Ile Thr Pro Cys Gln Thr Pro Asp Asp Phe Val Ala Ala Thr Ser
  1               5                  10                  15

Pro Gly His Ile Ile Ile Gly Gly Leu Phe Ala Ile His Glu Lys Met
             20                  25                  30

Leu Ser Ser Glu Asp Ser Pro Arg Arg Pro Gln Ile Gln Glu Cys Val
         35                  40                  45

Gly Phe Glu Ile Ser Val Phe Leu Gln Thr Leu Ala Met Ile His Ser
     50                  55                  60

Ile Glu Met Ile Asn Asn Ser Thr Leu Leu Pro Gly Val Lys Leu Gly
 65                  70                  75                  80

Tyr Glu Ile Tyr Asp Thr Cys Thr Glu Val Thr Val Ala Met Ala Ala
                 85                  90                  95

Thr Leu Arg Phe Leu Ser Lys Phe Asn Cys Ser Arg Glu Thr Val Glu
            100                 105                 110

Phe Lys Cys Asp Tyr Ser Ser Tyr Met Pro Arg Val Lys Ala Val Ile
        115                 120                 125

Gly Ser Gly Tyr Ser Glu Ile Thr Met Ala Val Ser Arg Met Leu Asn
    130                 135                 140

Leu Gln Leu Met Pro Gln Val Gly Tyr Glu Ser Thr Ala Glu Ile Leu
145                 150                 155                 160
```

```
Ser Asp Lys Ile Arg Phe Pro Ser Phe Leu Arg Thr Val Pro Ser Asp
                165                 170                 175

Phe His Gln Ile Lys Ala Met Ala His Leu Ile Gln Lys Ser Gly Trp
            180                 185                 190

Asn Trp Ile Gly Ile Ile Thr Thr Asp Asp Asp Tyr Gly Arg Leu Ala
        195                 200                 205

Leu Asn Thr Phe Ile Ile Gln Ala Glu Ala Asn Asn Val Cys Ile Ala
    210                 215                 220

Phe Lys Glu Val Leu Pro Ala Phe Leu Ser Asp Asn Thr Ile Glu Val
225                 230                 235                 240

Arg Ile Asn Arg Thr Leu Lys Lys Ile Ile Leu Glu Ala Gln Val Asn
                245                 250                 255

Val Ile Val Val Phe Leu Arg Gln Phe His Val Phe Asp Leu Phe Asn
            260                 265                 270

Lys Ala Ile Glu Met Asn Ile Asn Lys Met Trp Ile Ala Ser Asp Asn
        275                 280                 285

Trp Ser Thr Ala Thr Lys Ile Thr Thr Ile Pro Asn Val Lys Lys Ile
    290                 295                 300

Gly Lys Val Val Gly Phe Ala Phe Arg Arg Gly Asn Ile Ser Ser Phe
305                 310                 315                 320

His Ser Phe Leu Gln Asn Leu His Leu Leu Pro Ser Asp Ser His Lys
                325                 330                 335

Leu Leu His Glu Tyr Ala Met His Leu Ser Ala Cys Ala Tyr Val Lys
            340                 345                 350

Asp Thr Asp Leu Ser Gln Cys Ile Phe Asn His Ser Gln Arg Thr Leu
        355                 360                 365

Ala Tyr Lys Ala Asn Lys Ala Ile Glu Arg Asn Phe Val Met Arg Asn
    370                 375                 380

Asp Phe Leu Trp Asp Tyr Ala Glu Pro Gly Leu Ile His Ser Ile Gln
385                 390                 395                 400

Leu Ala Val Phe Ala Leu Gly Tyr Ala Ile Arg Asp Leu Cys Gln Ala
                405                 410                 415

Arg Asp Cys Gln Asn Pro Asn Ala Phe Gln Pro Trp Glu Leu Leu Gly
            420                 425                 430

Val Leu Lys Asn Val Thr Phe Thr Asp Gly Trp Asn Ser Phe His Phe
        435                 440                 445

Asp Ala His Gly Asp Leu Asn Thr Gly Tyr Asp Val Val Leu Trp Lys
    450                 455                 460
```

```
Glu Ile Asn Gly His Met Thr Val Thr Lys Met Ala Glu Tyr Asp Leu
465                 470                 475                 480

Gln Asn Asp Val Phe Ile Ile Pro Asp Gln Glu Thr Lys Asn Glu Phe
                485                 490                 495

Arg Asn Leu Lys Gln Ile Gln Ser Lys Cys Ser Lys Glu Cys Ser Pro
            500                 505                 510

Gly Gln Met Lys Lys Thr Thr Arg Ser Gln His Ile Cys Cys Tyr Glu
        515                 520                 525

Cys Gln Asn Cys Pro Glu Asn His Tyr Thr Asn Gln Thr Asp Met Pro
    530                 535                 540

His Cys Leu Leu Cys Asn Asn Lys Thr His Trp Ala Pro Val Arg Ser
545                 550                 555                 560

Thr Met Cys Phe Glu Lys Glu Val Glu Tyr Leu Asn Trp Asn Asp Ser
                565                 570                 575

Leu Ala Ile Leu Leu Leu Ile Leu Ser Leu Leu Gly Ile Ile Phe Val
            580                 585                 590

Leu Val Val Gly Ile Ile Phe Thr Arg Asn Leu Asn Thr Pro Val Val
        595                 600                 605

Lys Ser Ser Gly Gly Leu Arg Val Cys Tyr Val Ile Leu Leu Cys His
    610                 615                 620

Phe Leu Asn Phe Ala Ser Thr Ser Phe Phe Ile Gly Glu Pro Gln Asp
625                 630                 635                 640

Phe Thr Cys Lys Thr Arg Gln Thr Met Phe Gly Val Ser Phe Thr Leu
                645                 650                 655

Cys Ile Ser Cys Ile Leu Thr Lys Ser Leu Lys Ile Leu Leu Ala Phe
            660                 665                 670

Ser Phe Asp Pro Lys Leu Gln Lys Phe Leu Lys Cys Leu Tyr Arg Pro
        675                 680                 685

Ile Leu Ile Ile Phe Thr Cys Thr Gly Ile Gln Val Val Ile Cys Thr
    690                 695                 700

Leu Trp Leu Ile Phe Ala Ala Pro Thr Val Glu Val Asn Val Ser Leu
705                 710                 715                 720

Pro Arg Val Ile Ile Leu Glu Cys Glu Glu Gly Ser Ile Leu Ala Phe
                725                 730                 735

Gly Thr Met Leu Gly Tyr Ile Ala Ile Leu Ala Phe Ile Cys Phe Ile
            740                 745                 750

Phe Ala Phe Lys Gly Lys Tyr Glu Asn Tyr Asn Glu Ala Lys Phe Ile
        755                 760                 765
```

```
Thr Phe Gly Met Leu Ile Tyr Phe Ile Ala Trp Ile Thr Phe Ile Pro
    770                 775                 780

Ile Tyr Ala Thr Thr Phe Gly Lys Tyr Val Pro Ala Val Glu Ile Ile
785                 790                 795                 800

Val Ile Leu Ile Ser Asn Tyr Gly Ile Leu Tyr Cys Thr Phe Ile Pro
                805                 810                 815

Lys Cys Tyr Val Ile Ile Cys Lys Gln Glu Ile Asn Thr Lys Ser Ala
            820                 825                 830

Phe Leu Lys Met Ile Tyr Ser Tyr Ser Ser His Ser Val Ser Ser Ile
        835                 840                 845

Ala Leu Ser Pro Ala Ser Leu Asp Ser Met Ser Gly Asn Val Thr Met
    850                 855                 860

Thr Asn Pro Ser Ser Ser Gly Lys Ser Ala Thr Trp Gln Lys Ser Lys
865                 870                 875                 880

Asp Leu Gln Ala Gln Ala Phe Ala His Ile Cys Arg Glu Asn Ala Thr
                885                 890                 895

Ser Val Ser Lys Thr Leu Pro Arg Lys Arg Met Ser Ser Ile
            900                 905                 910

<210> 105
<211> 877
<212> PRT
<213> Carassius auratus

<400> 105
Met Ala Gly Leu Asp Leu Ser Leu Val Leu Met Leu Ser Val Leu Ala
  1               5                  10                  15

Gly Val Arg Glu Val Ser Leu Thr Gln Val Asn Gln Gln Gly Val Ile
             20                  25                  30

Ala Pro Gly Asp Ile Ile Ile Gly Gly Leu Phe Pro Ile His Glu Ala
         35                  40                  45

Ala Glu Ala Val Asn Phe Thr Gly Leu Asn Ser Phe Ser Ser Phe Gln
     50                  55                  60

His Pro Val Cys Asn Arg Tyr Tyr Thr Lys Gly Leu Asn Gln Ala Leu
 65                  70                  75                  80

Ala Met Ile His Ala Val Glu Met Ala Asn Gln Ser Pro Met Leu Ser
                 85                  90                  95

Ser Leu Asn Leu Thr Leu Gly Tyr Arg Ile Tyr Asp Thr Cys Ser Asp
            100                 105                 110

Val Thr Thr Ala Leu Trp Ala Val Gln Asp Leu Thr Arg Pro Tyr Ser
        115                 120                 125
```

```
Tyr Cys Asp Ser Gln Thr Asn Ser Ser Gln Pro Val Gln Pro Ile Met
    130                 135                 140

Ala Val Ile Gly Pro Ser Ser Ser Glu Ile Ser Ile Ala Val Ala Arg
145                 150                 155                 160

Glu Leu Asn Leu Leu Met Ile Pro Gln Ile Ser Tyr Ala Ser Thr Ala
                165                 170                 175

Thr Ile Leu Ser Asp Lys Ser Arg Phe Pro Ala Phe Met Arg Thr Val
            180                 185                 190

Pro Asn Asp Glu Tyr Gln Thr His Ala Met Val Gln Leu Leu Lys Asp
        195                 200                 205

Asn Lys Trp Thr Trp Val Gly Ile Ile Ile Thr Asp Gly Asp Tyr Gly
    210                 215                 220

Arg Ser Ala Met Glu Ser Phe Val Lys His Thr Glu Arg Glu Gly Ile
225                 230                 235                 240

Cys Val Ala Phe Lys Val Ile Leu Pro Asp Ser Leu Ala Asp Glu Gln
                245                 250                 255

Lys Leu Asn Ile His Ile Asn Glu Thr Val Asp Ile Ile Glu Lys Asn
            260                 265                 270

Thr Lys Val Asn Val Val Val Ser Phe Ala Lys Ser Ser Gln Met Lys
        275                 280                 285

Leu Leu Tyr Glu Gly Leu Arg Ser Arg Asn Val Pro Lys Asn Lys Val
    290                 295                 300

Trp Val Ala Ser Asp Asn Trp Ser Thr Ser Lys Asn Ile Leu Lys Asp
305                 310                 315                 320

Val Asn Leu Ser Asp Ile Gly Asn Ile Leu Gly Phe Thr Phe Lys Ser
                325                 330                 335

Gly Asn Val Thr Ala Phe Leu Gln Tyr Leu Lys Asp Leu Lys Phe Gly
            340                 345                 350

Ser Glu Ala Lys Met Asn Asn Ser Phe Leu Glu Glu Phe Leu Lys Leu
        355                 360                 365

Pro Glu Ile Gly Asn Ala Ala Asn Ala Val Gln Glu Gln Ile Lys Asn
    370                 375                 380

Thr His Leu Asp Met Val Phe Ser Val Gln Met Ala Val Ser Ala Ile
385                 390                 395                 400

Ala Lys Ala Val Val Glu Leu Cys Val Glu Arg Gln Cys Lys Thr Pro
                405                 410                 415

Ser Ala Ile Gln Pro Trp Glu Leu Leu Lys Gln Leu Arg Asn Val Thr
            420                 425                 430
```

```
Phe Glu Lys Glu Gly Val Met Tyr Asn Phe Asp Ala Asn Gly Asp Ile
        435                 440                 445

Asn Leu Gly Tyr Asp Val Cys Leu Trp Asp Asp Asp Glu Ser Glu Lys
    450                 455                 460

Asn Asp Ile Ile Ala Glu Tyr Tyr Pro Ser Asn Ser Ser Phe Thr Phe
465                 470                 475                 480

Thr Arg Lys Asn Leu Ser Asn Ile Glu Asn Val Leu Ser Lys Cys Ser
                485                 490                 495

Asp Ser Cys Gln Pro Gly Glu Tyr Lys Lys Thr Ala Glu Gly Gln His
            500                 505                 510

Thr Cys Cys Tyr Glu Cys Leu Ala Cys Ala Glu Asn Gln Tyr Ser Asn
        515                 520                 525

His Thr Asp Ala Asp Thr Cys Ser Lys Cys Asp Thr Glu Ser Leu Trp
    530                 535                 540

Ser Asn Ala Asn Ser Ser Lys Cys Tyr Pro Lys Phe Tyr Glu Tyr Phe
545                 550                 555                 560

Glu Trp Asn Ser Gly Phe Ala Ile Ala Leu Leu Thr Leu Ala Ala Leu
                565                 570                 575

Gly Ile Leu Leu Leu Ile Ser Met Ser Ala Leu Phe Phe Trp Gln Arg
            580                 585                 590

Asn Ser Leu Val Val Lys Ala Ala Gly Gly Pro Leu Cys His Leu Ile
        595                 600                 605

Leu Phe Ser Leu Leu Gly Ser Phe Ile Ser Val Ile Phe Phe Val Gly
    610                 615                 620

Glu Pro Ser Asn Glu Ser Cys Arg Val Arg Gln Val Ile Phe Gly Leu
625                 630                 635                 640

Ser Phe Thr Leu Cys Val Ser Cys Ile Leu Val Lys Ser Leu Lys Ile
                645                 650                 655

Leu Leu Ala Phe Gln Met Asn Leu Glu Leu Lys Glu Leu Leu Arg Lys
            660                 665                 670

Leu Tyr Lys Pro Tyr Val Ile Val Cys Met Cys Met Gly Leu Gln Val
        675                 680                 685

Thr Ile Cys Thr Leu Trp Leu Thr Leu His Arg Pro Phe Ile Glu Lys
    690                 695                 700

Val Val Gln Pro Lys Ser Ile Leu Leu Glu Cys Asn Glu Gly Ser Asp
705                 710                 715                 720

Leu Met Phe Gly Leu Met Leu Gly Tyr Ile Val Leu Leu Ala Leu Ile
                725                 730                 735
```

```
Cys Phe Thr Phe Ala Tyr Lys Gly Arg Lys Leu Pro Gln Lys Tyr Asn
            740                 745                 750

Glu Ala Lys Phe Ile Thr Phe Gly Met Leu Ile Tyr Leu Met Ala Trp
        755                 760                 765

Val Ile Phe Ile Pro Val His Val Thr Thr Ser Gly Lys Tyr Val Pro
    770                 775                 780

Ala Val Glu Val Val Val Ile Leu Ile Ser Asn Tyr Gly Ile Leu Ser
785                 790                 795                 800

Cys His Phe Leu Pro Lys Cys Tyr Ile Ile Ile Phe Lys Lys Glu Tyr
                805                 810                 815

Asn Thr Lys Asp Ala Phe Leu Lys Asn Val Phe Glu Tyr Ala Arg Lys
            820                 825                 830

Ser Ser Glu Asn Ile Arg Gly Leu Ser Gly Thr Asp Pro His Ser Lys
        835                 840                 845

Thr Asp Asn Ser Val Tyr Val Ile Ser Asn Pro Ser Leu Val Pro Glu
    850                 855                 860

Glu Lys Gln Val Ser Val Pro Glu Ile Asp Asn Val Leu
865                 870                 875

<210> 106
<211> 940
<212> PRT
<213> Takifugu rubripes

<400> 106
Met Val Arg Leu Val Leu His Tyr Leu Ile Leu Leu Gly Ser Gly Tyr
  1               5                  10                  15

Val Ile Ser Thr Tyr Gly Pro Asn Gln Arg Ala Gln Met Thr Gly Asp
             20                  25                  30

Ile Leu Leu Gly Gly Leu Phe Pro Ile His Phe Gly Ile Ser Ser Lys
         35                  40                  45

Asp Glu Asn Leu Ala Ala Arg Pro Glu Ser Thr Lys Cys Val Arg Phe
     50                  55                  60

Asn Phe Arg Gly Phe Arg Trp Leu Gln Ala Met Val Phe Ala Ile Glu
 65                  70                  75                  80

Glu Ile Asn Asn Ser Ser Ser Leu Leu Pro Asn Ile Thr Leu Gly Tyr
                 85                  90                  95

Arg Ile Phe Asp Thr Cys Asn Thr Val Ser Lys Ala Leu Glu Ala Thr
            100                 105                 110

Leu Ser Phe Val Ala Gln Asn Lys Ile Asp Ser Leu Asn Leu Asp Glu
        115                 120                 125
```

```
Phe Cys Asn Cys Thr Asp His Ile Pro Ala Thr Ile Ala Val Val Gly
    130                 135                 140

Ala Ala Gly Ser Ala Val Ser Thr Ala Val Ala Asn Leu Leu Ser Leu
145                 150                 155                 160

Phe Tyr Ile Pro Gln Ile Ser Tyr Ala Ser Ser Ser Arg Leu Leu Ser
                165                 170                 175

Asn Lys Asn Gln Tyr Lys Ser Phe Met Arg Thr Ile Pro Thr Asp Glu
            180                 185                 190

His Gln Ala Thr Ala Met Ala Asp Val Ile Glu Tyr Phe Gln Trp Asn
        195                 200                 205

Trp Val Ile Ala Val Ala Ser Asp Asp Asp Tyr Gly Arg Pro Gly Ile
    210                 215                 220

Glu Lys Phe Glu Lys Glu Met Glu Glu Arg Asp Ile Cys Ile His Leu
225                 230                 235                 240

Asn Glu Leu Ile Ser Gln Tyr Phe Glu Asp Cys Glu Ile Lys Ala Leu
                245                 250                 255

Val Asp Arg Ile Glu Asn Ser Thr Ala Lys Val Ile Val Val Phe Ala
            260                 265                 270

Ser Gly Pro Asp Ile Glu Pro Leu Ile Lys Glu Met Val Arg Arg Asn
        275                 280                 285

Ile Thr Asp Arg Ile Trp Leu Ala Ser Glu Ala Trp Ala Ser Ser Ser
    290                 295                 300

Leu Ile Ala Lys Pro Glu Tyr Leu Asp Val Val Glu Gly Thr Ile Gly
305                 310                 315                 320

Phe Val Leu Lys Ala Gly Asn Ile Pro Gly Phe Arg Glu Phe Leu Gln
                325                 330                 335

Gln Val Gln Pro Lys Arg Gly Ser His Asn Glu Phe Val Arg Glu Phe
            340                 345                 350

Trp Glu Glu Thr Phe Asn Cys Tyr Leu Glu Asp Ser Pro Arg Leu Gln
        355                 360                 365

Glu Ser Glu Asn Gly Ser Asp Ser Phe Arg Pro Leu Cys Thr Ser Glu
    370                 375                 380

Glu Asp Ile Thr Ser Val Glu Thr Pro Tyr Leu Asp His Thr His Leu
385                 390                 395                 400

Arg Ile Ser Tyr Asn Val Tyr Val Ala Val Tyr Ser Ile Ala His Ala
                405                 410                 415

Leu Gln Asp Ile Leu Ser Cys Thr Pro Gly His Gly Leu Phe Ala Asn
            420                 425                 430
```

```
Asn Ser Cys Ala Asp Ile Lys Lys Met Glu Ala Trp Gln Val Leu Lys
        435                 440                 445

Gln Leu Arg His Leu Asn Tyr Thr Asn Ser Met Gly Glu Lys Val His
    450                 455                 460

Phe Asp Glu Asn Ala Asp Met Glu Ala Asn Tyr Thr Ile Ile Asn Trp
465                 470                 475                 480

His Arg Ser Ala Glu Asp Gly Ser Val Ala Phe Arg Glu Val Gly Tyr
                485                 490                 495

Tyr His Met His Ala Arg Arg Gly Ala Lys Leu Leu Ile Asp Asn Thr
            500                 505                 510

Lys Met Met Trp Asn Ala Tyr Ser Ser Glu Val Pro Phe Ser Asn Cys
        515                 520                 525

Ser Glu Asp Cys Glu Pro Gly Thr Arg Lys Gly Ile Ile Asp Ser Met
    530                 535                 540

Pro Thr Cys Cys Phe Glu Cys Thr Glu Cys Ser Asp Gly Glu Tyr Ser
545                 550                 555                 560

Asp His Lys Asp Ala Ser Ile Cys Thr Lys Cys Pro Asn Asn Ser Trp
                565                 570                 575

Ser Ser Gly Asn His Thr Phe Cys Phe Leu Lys Glu Ile Glu Phe Leu
            580                 585                 590

Ala Trp Ser Glu Pro Phe Gly Ile Ala Leu Ala Ile Cys Ala Val Leu
        595                 600                 605

Gly Val Leu Leu Thr Ala Phe Val Met Gly Val Phe Val Arg Phe Arg
    610                 615                 620

Asn Thr Pro Ile Val Lys Ala Ser Asn Arg Glu Leu Ser Tyr Val Leu
625                 630                 635                 640

Leu Leu Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly
                645                 650                 655

Glu Pro Gln Asp Trp Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile
            660                 665                 670

Ser Phe Val Leu Cys Ile Ser Cys Ile Leu Val Lys Thr Asn Arg Val
        675                 680                 685

Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Ile His Arg Lys Trp
    690                 695                 700

Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Thr Phe Val
705                 710                 715                 720

Gln Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ser Ser
                725                 730                 735
```

```
Tyr Arg Asn His Asp Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu
            740                 745                 750

Gly Ser Val Met Ala Leu Gly Phe Leu Ile Gly Tyr Thr Cys Leu Leu
        755                 760                 765

Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Leu Pro Glu
    770                 775                 780

Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Cys Met Leu Ile Phe Phe
785                 790                 795                 800

Ile Val Trp Ile Ser Phe Ile Pro Ala Tyr Phe Ser Thr Tyr Gly Lys
                805                 810                 815

Phe Val Ser Ala Val Glu Ala Ile Ala Ile Leu Ala Ser Ser Tyr Gly
            820                 825                 830

Met Leu Ala Cys Ile Phe Phe Asn Lys Val Tyr Ile Ile Leu Phe Lys
        835                 840                 845

Pro Cys Arg Asn Thr Ile Glu Glu Val Arg Cys Ser Thr Ala Ala His
    850                 855                 860

Ala Phe Arg Val Ala Ala Lys Ala Thr Leu Lys His Arg Thr Thr Val
865                 870                 875                 880

Arg Lys Lys Ser Asn Ser Ile Gly Ser Thr Ala Ser Thr Pro Ser Ser
                885                 890                 895

Ser Ile Ser Leu Lys Thr Asn Ser Asn Asp Cys Asp Ser Ala Ser Gly
            900                 905                 910

Arg His Arg Pro Arg Val Ser Phe Gly Ser Gly Thr Val Met Leu Ser
        915                 920                 925

Leu Ser Phe Glu Glu Ser Arg Arg Ser Ser Leu Met
    930                 935                 940

<210> 107
<211> 940
<212> PRT
<213> Sparus aurata

<400> 107
Met Arg Leu Val Leu Tyr Tyr Leu Ile Leu Leu Gly Ser Ser Tyr Val
  1               5                  10                  15

Ile Ser Thr Tyr Gly Pro His Gln Arg Ala Gln Met Thr Gly Asp Ile
             20                  25                  30

Leu Leu Gly Gly Leu Phe Pro Ile His Phe Gly Val Ala Ser Lys Asp
         35                  40                  45

Gln Asp Leu Ala Ala Arg Pro Glu Ser Ser Gln Cys Val Arg Phe Asn
     50                  55                  60
```

```
Phe Arg Gly Phe Arg Trp Leu Gln Ala Met Ile Phe Ala Ile Asp Glu
 65                  70                  75                  80

Ile Asn Asn Ser Ser Thr Leu Leu Pro Asn Ile Thr Leu Gly Tyr Arg
                 85                  90                  95

Ile Phe Asp Thr Cys Asn Thr Val Ser Lys Ala Leu Glu Ala Thr Leu
            100                 105                 110

Ser Phe Val Ala Gln Asn Lys Ile Asp Ser Leu Asn Leu Asp Glu Phe
        115                 120                 125

Cys Asn Cys Thr Asp His Ile Pro Ala Thr Ile Ala Val Val Gly Ala
    130                 135                 140

Ala Gly Ser Ala Val Ser Thr Ala Val Ala Asn Leu Leu Gly Leu Phe
145                 150                 155                 160

Tyr Ile Pro Gln Ile Ser Tyr Ala Ser Ser Ser Arg Leu Leu Ser Asn
                165                 170                 175

Lys Asn Gln Tyr Lys Ser Phe Met Arg Thr Ile Pro Thr Asp Glu Tyr
            180                 185                 190

Gln Ala Thr Ala Met Ala Asp Ile Ile Glu Phe Phe Gln Trp Asn Trp
        195                 200                 205

Val Ser Ala Val Ala Ser Asp Asp Asp Tyr Gly Arg Pro Gly Val Glu
    210                 215                 220

Lys Phe Glu Lys Glu Met Glu Glu Arg Asp Ile Cys Ile His Leu Asn
225                 230                 235                 240

Glu Leu Ile Ser Gln Tyr Phe Glu Asp His Glu Ile Gln Ala Leu Ala
                245                 250                 255

Asp Arg Ile Glu Asn Ser Thr Ala Lys Val Ile Val Val Phe Ala Ser
            260                 265                 270

Gly Pro Asp Ile Glu Pro Leu Ile Lys Glu Met Val Arg Arg Asn Ile
        275                 280                 285

Thr Asp Arg Ile Trp Leu Ala Ser Glu Ala Trp Ser Ser Ser Ser Leu
    290                 295                 300

Ile Ala Lys Pro Glu Tyr Leu Asp Val Val Ala Gly Thr Ile Gly Phe
305                 310                 315                 320

Ala Leu Lys Ala Gly His Ile Pro Gly Phe Arg Glu Phe Leu Gln Gln
                325                 330                 335

Val Gln Pro Lys Lys Asp Ser His Asn Glu Phe Val Arg Glu Phe Trp
            340                 345                 350

Glu Glu Thr Phe Asn Cys Tyr Leu Glu Asp Ser Pro Arg Leu Gln Glu
        355                 360                 365
```

```
Ser Glu Asn Gly Ser Thr Ser Phe Arg Pro Leu Cys Thr Gly Glu Glu
    370                 375                 380

Asp Ile Thr Ser Val Glu Thr Pro Tyr Leu Asp Tyr Thr His Leu Arg
385                 390                 395                 400

Ile Ser Tyr Asn Val Tyr Val Ala Val Tyr Ser Ile Ala Gln Ala Leu
                405                 410                 415

Gln Asp Ile Leu Thr Cys Thr Pro Gly Gln Gly Leu Phe Ala Asn Asn
            420                 425                 430

Ser Cys Ala Asp Ile Lys Lys Met Glu Ala Trp Gln Val Leu Lys Gln
        435                 440                 445

Leu Arg His Leu Asn Tyr Thr Asn Ser Met Gly Glu Lys Met His Phe
    450                 455                 460

Asp Glu Asn Ala Asp Leu Ala Ala Asn Tyr Thr Leu Ile Asn Trp His
465                 470                 475                 480

Arg Ser Ala Glu Asp Gly Ser Val Val Phe Glu Glu Val Gly Tyr Tyr
                485                 490                 495

Asn Met His Ala Lys Arg Gly Gly Lys Leu Phe Ile Asp Asn Thr Lys
            500                 505                 510

Ile Leu Trp Asn Gly Phe Ser Ser Glu Val Pro Phe Ser Asn Cys Ser
        515                 520                 525

Glu Asp Cys Glu Pro Gly Thr Arg Lys Gly Ile Ile Asp Ser Met Pro
    530                 535                 540

Thr Cys Cys Phe Glu Cys Thr Glu Cys Ser Asp Gly Glu Tyr Ser Tyr
545                 550                 555                 560

His Lys Asp Ala Ser Val Cys Thr Lys Cys Pro Asn Asn Ser Trp Ser
                565                 570                 575

Asn Gly Asn His Thr Phe Cys Phe Leu Lys Glu Ile Glu Phe Leu Ser
            580                 585                 590

Trp Thr Glu Pro Phe Gly Ile Ala Leu Ala Ile Cys Ala Val Leu Gly
        595                 600                 605

Val Val Leu Thr Ala Phe Val Met Gly Val Phe Val Arg Phe Arg Asn
    610                 615                 620

Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Val Leu Leu
625                 630                 635                 640

Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Gln
                645                 650                 655

Pro Gln Asp Trp Met Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser
            660                 665                 670
```

```
Phe Val Leu Cys Ile Ser Cys Ile Leu Val Lys Thr Asn Arg Val Leu
        675                 680                 685

Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His Arg Lys Trp Trp
    690                 695                 700

Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Thr Phe Val Gln
705                 710                 715                 720

Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ser Ser Tyr
                725                 730                 735

Met Asn His Asp Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly
            740                 745                 750

Ser Val Met Ala Leu Gly Phe Leu Ile Gly Tyr Thr Cys Leu Leu Ala
        755                 760                 765

Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Leu Pro Glu Asn
    770                 775                 780

Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe Phe Ile
785                 790                 795                 800

Val Trp Ile Ser Phe Ile Pro Ala Tyr Phe Ser Thr Tyr Gly Lys Phe
                805                 810                 815

Val Ser Ala Val Glu Ala Ile Ala Ile Leu Ala Ser Ser Phe Gly Met
            820                 825                 830

Leu Ala Cys Ile Phe Phe Asn Lys Val Tyr Ile Ile Leu Phe Lys Pro
        835                 840                 845

Ser Arg Asn Thr Ile Glu Glu Val Arg Cys Ser Thr Ala Ala His Ala
    850                 855                 860

Phe Lys Val Ala Ala Lys Ala Thr Leu Lys His Asn Thr Ala Ala Arg
865                 870                 875                 880

Lys Lys Ser Ser Ser Ile Gly Gly Ser Ser Ser Ser Thr Pro Ser Ser
                885                 890                 895

Ser Ile Ser Leu Lys Thr Asn Gly Asn Asp Cys Asp Ala Thr Ser Gly
            900                 905                 910

Lys His Arg Pro Arg Val Ser Phe Gly Ser Gly Thr Val Thr Leu Ser
        915                 920                 925

Leu Ser Phe Glu Glu Ser Arg Arg Ser Ser Leu Met
    930                 935                 940
```

<210> 108
<211> 1085
<212> PRT
<213> Bos taurus

<400> 108

```
Met Ala Leu Tyr Ser Cys Cys Trp Ile Leu Leu Ala Phe Ser Thr Trp
  1               5                  10                  15

Cys Thr Ser Ala Tyr Gly Pro Asp Gln Arg Ala Gln Lys Lys Gly Asp
             20                  25                  30

Ile Ile Leu Gly Gly Leu Phe Pro Ile His Phe Gly Val Ala Val Lys
         35                  40                  45

Asp Gln Asp Leu Lys Ser Arg Pro Glu Ser Val Glu Cys Ile Arg Tyr
     50                  55                  60

Asn Phe Arg Gly Phe Arg Trp Leu Gln Ala Met Ile Phe Ala Ile Glu
 65                  70                  75                  80

Glu Ile Asn Ser Ser Pro Ala Leu Leu Pro Asn Met Thr Leu Gly Tyr
                 85                  90                  95

Arg Ile Phe Asp Thr Cys Asn Thr Val Ser Lys Ala Leu Glu Ala Thr
            100                 105                 110

Leu Ser Phe Val Ala Gln Asn Lys Ile Asp Ser Leu Asn Leu Asp Glu
        115                 120                 125

Phe Cys Asn Cys Ser Glu His Ile Pro Ser Thr Ile Ala Val Val Gly
    130                 135                 140

Ala Thr Gly Ser Gly Ile Ser Thr Ala Val Ala Asn Leu Leu Gly Leu
145                 150                 155                 160

Phe Tyr Ile Pro Gln Val Ser Tyr Ala Ser Ser Ser Arg Leu Leu Ser
                165                 170                 175

Asn Lys Asn Gln Phe Lys Ser Phe Leu Arg Thr Ile Pro Asn Asp Glu
            180                 185                 190

His Gln Ala Thr Ala Met Ala Asp Ile Ile Glu Tyr Phe Arg Trp Asn
        195                 200                 205

Trp Val Gly Thr Ile Ala Ala Asp Asp Asp Tyr Gly Arg Pro Gly Ile
    210                 215                 220

Glu Lys Phe Arg Glu Glu Ala Glu Glu Arg Asp Ile Cys Ile Asp Phe
225                 230                 235                 240

Ser Glu Leu Ile Ser Gln Tyr Ser Asp Glu Glu Lys Ile Gln Gln Val
                245                 250                 255

Val Glu Val Ile Gln Asn Ser Thr Ala Lys Val Ile Val Val Phe Ser
            260                 265                 270

Ser Gly Pro Asp Leu Glu Pro Leu Ile Lys Glu Ile Val Arg Arg Asn
        275                 280                 285

Ile Thr Gly Arg Ile Trp Leu Ala Ser Glu Ala Trp Ala Ser Ser Ser
    290                 295                 300
```

```
Leu Ile Ala Met Pro Glu Tyr Phe His Val Val Gly Gly Thr Ile Gly
305                 310                 315                 320

Phe Gly Leu Lys Ala Gly Gln Ile Pro Gly Phe Arg Glu Phe Leu Gln
                325                 330                 335

Lys Val His Pro Arg Lys Ser Val His Asn Gly Phe Ala Lys Glu Phe
            340                 345                 350

Trp Glu Glu Thr Phe Asn Cys His Leu Gln Glu Gly Ala Lys Gly Pro
        355                 360                 365

Leu Pro Val Asp Thr Phe Leu Arg Gly His Glu Glu Gly Gly Ala Arg
    370                 375                 380

Leu Ser Asn Ser Pro Thr Ala Phe Arg Pro Leu Cys Thr Gly Glu Glu
385                 390                 395                 400

Asn Ile Ser Ser Val Glu Thr Pro Tyr Met Asp Tyr Thr His Leu Arg
                405                 410                 415

Ile Ser Tyr Asn Val Tyr Leu Ala Val Tyr Ser Ile Ala His Ala Leu
            420                 425                 430

Gln Asp Ile Tyr Thr Cys Ile Pro Gly Arg Gly Leu Phe Thr Asn Gly
        435                 440                 445

Ser Cys Ala Asp Ile Lys Lys Val Glu Ala Trp Gln Val Leu Lys His
    450                 455                 460

Leu Arg His Leu Asn Phe Thr Ser Asn Met Gly Glu Gln Val Thr Phe
465                 470                 475                 480

Asp Glu Cys Gly Asp Leu Ala Gly Asn Tyr Ser Ile Ile Asn Trp His
                485                 490                 495

Leu Ser Pro Glu Asp Gly Ser Ile Val Phe Lys Glu Val Gly Tyr Tyr
            500                 505                 510

Asn Val Tyr Ala Lys Lys Gly Glu Arg Leu Phe Ile Asn Asp Glu Lys
        515                 520                 525

Ile Leu Trp Ser Gly Phe Ser Arg Glu Val Pro Phe Ser Asn Cys Ser
    530                 535                 540

Arg Asp Cys Leu Ala Gly Thr Arg Lys Gly Ile Ile Glu Gly Glu Pro
545                 550                 555                 560

Thr Cys Cys Phe Glu Cys Val Glu Cys Pro Asp Gly Glu Tyr Ser Asp
                565                 570                 575

Glu Thr Asp Ala Ser Ala Cys Asp Lys Cys Pro Asp Asp Phe Trp Ser
            580                 585                 590

Asn Glu Asn His Thr Ser Cys Ile Ala Lys Glu Ile Glu Phe Leu Ser
        595                 600                 605
```

```
Trp Thr Glu Pro Phe Gly Ile Ala Leu Thr Leu Phe Ala Val Leu Gly
    610                 615                 620

Ile Phe Leu Thr Ala Phe Val Leu Gly Val Phe Ile Lys Phe Arg Asn
625                 630                 635                 640

Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu
                645                 650                 655

Phe Ser Leu Leu Cys Cys Phe Ser Ser Ser Leu Phe Phe Ile Gly Glu
            660                 665                 670

Pro Gln Asp Trp Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser
        675                 680                 685

Phe Val Leu Cys Ile Ser Cys Ile Leu Val Lys Thr Asn Arg Val Leu
    690                 695                 700

Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Phe His Arg Lys Trp Trp
705                 710                 715                 720

Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Thr Phe Met Gln
                725                 730                 735

Ile Val Ile Cys Ala Ile Trp Leu Asn Thr Ala Pro Pro Ser Ser Tyr
            740                 745                 750

Arg Asn His Glu Leu Glu Asp Glu Ile Ile Phe Ile Thr Cys His Glu
        755                 760                 765

Gly Ser Leu Met Ala Leu Gly Phe Leu Ile Gly Tyr Thr Cys Leu Leu
    770                 775                 780

Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Leu Pro Glu
785                 790                 795                 800

Asn Phe Asn Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe Phe
                805                 810                 815

Ile Val Trp Ile Ser Phe Ile Pro Ala Tyr Ala Ser Thr Tyr Gly Lys
            820                 825                 830

Phe Val Ser Ala Val Glu Val Ile Ala Ile Leu Ala Ala Ser Phe Gly
        835                 840                 845

Leu Leu Ala Cys Ile Phe Phe Asn Lys Val Tyr Ile Ile Leu Phe Lys
    850                 855                 860

Pro Ser Arg Asn Thr Ile Glu Glu Val Arg Cys Ser Thr Ala Ala His
865                 870                 875                 880

Ala Phe Lys Val Ala Ala Arg Ala Thr Leu Arg Arg Ser Asn Val Ser
                885                 890                 895

Arg Gln Arg Ser Ser Ser Leu Gly Gly Ser Thr Gly Ser Thr Pro Ser
            900                 905                 910
```

```
Ser Ser Ile Ser Ser Lys Ser Asn Ser Glu Asp Pro Phe Pro Gln Gln
        915                 920                 925

Gln Pro Lys Arg Gln Lys Gln Pro Gln Pro Leu Ala Leu Ser Pro His
    930                 935                 940

Asn Ala Gln Gln Pro Gln Pro Arg Pro Pro Ser Thr Pro Gln Pro Gln
945                 950                 955                 960

Pro Gln Ser Gln Gln Pro Pro Arg Cys Lys Gln Lys Val Ile Phe Gly
                965                 970                 975

Ser Gly Thr Val Thr Phe Ser Leu Ser Phe Asp Glu Pro Gln Lys Thr
            980                 985                 990

Ala Val Ala His Arg Asn Ser Thr His Gln Thr Ser Leu Glu Ala Gln
        995                1000                1005

Lys Asn Asn Asp Ala Leu Thr Lys His Gln Ala Leu Leu Pro Leu Gln
   1010                1015                1020

Cys Gly Glu Thr Asp Ser Glu Leu Thr Ser Gln Glu Thr Gly Leu Gln
1025                1030                1035                1040

Gly Pro Val Gly Glu Asp His Gln Leu Glu Met Glu Asp Pro Glu Glu
                1045                1050                1055

Met Ser Pro Ala Leu Val Val Ser Asn Ser Arg Ser Phe Val Ile Ser
            1060                1065                1070

Gly Gly Gly Ser Thr Val Thr Glu Asn Met Leu Arg Ser
        1075                1080                1085

<210> 109
<211> 229
<212> PRT
<213> Homo sapiens

<400> 109
Met Gly Trp Arg Arg Arg Thr Arg Gly Ala Glu Glu Leu Thr Phe Gly
  1               5                  10                  15

Gln Val Trp Gly His Ser Pro Arg Ser Thr Val Arg Glu Leu Ser Val
             20                  25                  30

Pro Cys Val Leu Met Ser Thr Asp Ile Asn Glu Gln Arg Asn Gly Met
         35                  40                  45

Asp Gln Gln Glu Asp Arg Gln Pro Arg Glu Met Ala Ser Gly Thr Ala
     50                  55                  60

Gly Ser Arg Lys Ile Asn Cys Thr Gly Ile Tyr Leu Val His Leu Ala
 65                  70                  75                  80

Val Ser Asp Leu Leu Phe Thr Val Ala Leu Pro Gly Arg Val Leu Ala
                 85                  90                  95
```

```
Phe Arg Gln Gly Ala Leu Gln Ala Asp Gly Val Cys Ala Leu His Arg
            100                 105                 110

His Leu Arg Gly Val Tyr Leu Met Ala Cys Val Ser Val Asp His Tyr
        115                 120                 125

Pro Ala Val Val Cys Ala His Trp Gly Pro Arg Leu Arg Thr Ala Gly
    130                 135                 140

Arg Ala Arg Leu Val Cys Val Ala Ile Trp Thr Leu Val Leu Leu Gln
145                 150                 155                 160

Thr Met Pro Leu Leu Leu Met Pro Met Thr Lys Pro Leu Val Gly Lys
                165                 170                 175

Leu Ala Cys Met Glu Tyr Ser Ser Met Glu Ser Val Leu Gly Leu Pro
            180                 185                 190

Leu Met Val Leu Val Ala Phe Ala Ile Gly Phe Cys Gly Pro Val Gly
        195                 200                 205

Ile Ile Leu Ser Cys Tyr Met Lys Ile Thr Trp Lys Leu Cys Ser Thr
    210                 215                 220

Ala Gly Arg Thr Gln
225
```

<210> 110
<211> 361
<212> PRT
<213> Homo sapiens

<400> 110

```
Met Asp Ile Gln Met Ala Asn Asn Phe Thr Pro Pro Ser Ala Thr Pro
  1               5                  10                  15

Gln Gly Asn Asp Cys Asp Leu Tyr Ala His His Ser Thr Ala Arg Ile
             20                  25                  30

Val Met Pro Leu His Tyr Ser Leu Val Phe Ile Ile Gly Leu Val Gly
         35                  40                  45

Asn Leu Leu Ala Leu Val Val Ile Val Gln Asn Arg Lys Lys Ile Asn
     50                  55                  60

Ser Thr Thr Leu Tyr Ser Thr Asn Leu Val Ile Ser Asp Ile Leu Phe
 65                  70                  75                  80

Thr Thr Ala Leu Pro Thr Arg Ile Ala Tyr Tyr Ala Met Gly Phe Asp
                 85                  90                  95

Trp Arg Ile Gly Asp Ala Leu Cys Arg Ile Thr Ala Leu Val Phe Tyr
            100                 105                 110

Ile Asn Thr Tyr Ala Gly Val Asn Phe Met Thr Cys Leu Ser Ile Asp
        115                 120                 125
```

```
Arg Phe Ile Ala Val Val His Pro Leu Arg Tyr Asn Lys Ile Lys Arg
    130                 135                 140

Ile Glu His Ala Lys Gly Val Cys Ile Phe Val Trp Ile Leu Val Phe
145                 150                 155                 160

Ala Gln Thr Leu Pro Leu Leu Ile Asn Pro Met Ser Lys Gln Glu Ala
                165                 170                 175

Glu Arg Ile Thr Cys Met Glu Tyr Pro Asn Phe Glu Glu Thr Lys Ser
            180                 185                 190

Leu Pro Trp Ile Leu Leu Gly Ala Cys Phe Ile Gly Tyr Val Leu Pro
        195                 200                 205

Leu Ile Ile Ile Leu Ile Cys Tyr Ser Gln Ile Cys Cys Lys Leu Phe
    210                 215                 220

Arg Thr Ala Lys Gln Asn Pro Leu Thr Glu Lys Ser Gly Val Asn Lys
225                 230                 235                 240

Lys Ala Leu Asn Thr Ile Ile Leu Ile Ile Val Val Phe Val Leu Cys
                245                 250                 255

Phe Thr Pro Tyr His Val Ala Ile Ile Gln His Met Ile Lys Lys Leu
            260                 265                 270

Arg Phe Ser Asn Phe Leu Glu Cys Ser Gln Arg His Ser Phe Gln Ile
        275                 280                 285

Ser Leu His Phe Thr Val Cys Leu Met Asn Phe Asn Cys Cys Met Asp
    290                 295                 300

Pro Phe Ile Tyr Phe Phe Ala Cys Lys Gly Tyr Lys Arg Lys Val Met
305                 310                 315                 320

Arg Met Leu Lys Arg Gln Val Ser Val Ser Ile Ser Ser Ala Val Lys
                325                 330                 335

Ser Ala Pro Glu Glu Asn Ser Arg Glu Met Thr Glu Thr Gln Met Met
            340                 345                 350

Ile His Ser Lys Ser Ser Asn Gly Lys
        355                 360
```

<210> 111
<211> 367
<212> PRT
<213> Homo sapiens

<400> 111

```
Met Ser Lys Arg Ser Trp Trp Ala Gly Ser Arg Lys Pro Pro Arg Glu
  1               5                  10                  15

Met Leu Lys Leu Ser Gly Ser Asp Ser Ser Gln Ser Met Asn Gly Leu
             20                  25                  30
```

```
Glu Val Ala Pro Pro Gly Leu Ile Thr Asn Phe Ser Leu Ala Thr Ala
         35                  40                  45

Glu Gln Cys Gly Gln Glu Thr Pro Leu Glu Asn Met Leu Phe Ala Ser
     50                  55                  60

Phe Tyr Leu Leu Asp Phe Ile Leu Ala Leu Val Gly Asn Thr Leu Ala
 65                  70                  75                  80

Leu Trp Leu Phe Ile Arg Asp His Lys Ser Gly Thr Pro Ala Asn Val
                 85                  90                  95

Phe Leu Met His Leu Ala Val Ala Asp Leu Ser Cys Val Leu Val Leu
            100                 105                 110

Pro Thr Arg Leu Val Tyr His Phe Ser Gly Asn His Trp Pro Phe Gly
        115                 120                 125

Glu Ile Ala Cys Arg Leu Thr Gly Phe Leu Phe Tyr Leu Asn Met Tyr
    130                 135                 140

Ala Ser Ile Tyr Phe Leu Thr Cys Ile Ser Ala Asp Arg Phe Leu Ala
145                 150                 155                 160

Ile Val His Pro Val Lys Ser Leu Lys Leu Arg Arg Pro Leu Tyr Ala
                165                 170                 175

His Leu Ala Cys Ala Phe Leu Trp Val Val Val Ala Val Ala Met Ala
            180                 185                 190

Pro Leu Leu Val Ser Pro Gln Thr Val Gln Thr Asn His Thr Val Val
        195                 200                 205

Cys Leu Gln Leu Tyr Arg Glu Lys Ala Ser His His Ala Leu Val Ser
    210                 215                 220

Leu Ala Val Ala Phe Thr Phe Pro Phe Ile Thr Thr Val Thr Cys Tyr
225                 230                 235                 240

Leu Leu Ile Ile Arg Ser Leu Arg Gln Gly Leu Arg Val Glu Lys Arg
                245                 250                 255

Leu Lys Thr Lys Ala Val Arg Met Ile Ala Ile Val Leu Ala Ile Phe
            260                 265                 270

Leu Val Cys Phe Val Pro Tyr His Val Asn Arg Ser Val Tyr Val Leu
        275                 280                 285

His Tyr Arg Ser His Gly Ala Ser Cys Ala Thr Gln Arg Ile Leu Ala
    290                 295                 300

Leu Ala Asn Arg Ile Thr Ser Cys Leu Thr Ser Leu Asn Gly Ala Leu
305                 310                 315                 320

Asp Pro Ile Met Tyr Phe Phe Val Ala Glu Lys Phe Arg His Ala Leu
                325                 330                 335
```

```
Cys Asn Leu Leu Cys Gly Lys Arg Leu Lys Gly Pro Pro Pro Ser Phe
            340                 345                 350

Glu Gly Lys Thr Asn Glu Ser Ser Leu Ser Ala Lys Ser Glu Leu
        355                 360                 365
```

<210> 112
<211> 339
<212> PRT
<213> Homo sapiens

<400> 112

```
Met Asn Gly Leu Glu Val Ala Pro Pro Gly Leu Ile Thr Asn Phe Ser
  1               5                  10                  15

Leu Ala Thr Ala Glu Gln Cys Gly Gln Glu Thr Pro Leu Glu Asn Met
             20                  25                  30

Leu Phe Ala Ser Phe Tyr Leu Leu Asp Phe Ile Leu Ala Leu Val Gly
         35                  40                  45

Asn Thr Leu Ala Leu Trp Leu Phe Ile Arg Asp His Lys Ser Gly Thr
     50                  55                  60

Pro Ala Asn Val Phe Leu Met His Leu Ala Val Ala Asp Leu Ser Cys
 65                  70                  75                  80

Val Leu Val Leu Pro Thr Arg Leu Val Tyr His Phe Ser Gly Asn His
                 85                  90                  95

Trp Pro Phe Gly Glu Ile Ala Cys Arg Leu Thr Gly Phe Leu Phe Tyr
            100                 105                 110

Leu Asn Met Tyr Ala Ser Ile Tyr Phe Leu Thr Cys Ile Ser Ala Asp
        115                 120                 125

Arg Phe Leu Ala Ile Val His Pro Val Lys Ser Leu Lys Leu Arg Arg
    130                 135                 140

Pro Leu Tyr Ala His Leu Ala Cys Ala Phe Leu Trp Val Val Val Ala
145                 150                 155                 160

Val Ala Met Ala Pro Leu Leu Val Ser Pro Gln Thr Val Gln Thr Asn
                165                 170                 175

His Thr Val Val Cys Leu Gln Leu Tyr Arg Glu Lys Ala Ser His His
            180                 185                 190

Ala Leu Val Ser Leu Ala Val Ala Phe Thr Phe Pro Phe Ile Thr Thr
        195                 200                 205

Val Thr Cys Tyr Leu Leu Ile Ile Arg Ser Leu Arg Gln Gly Leu Arg
    210                 215                 220

Val Glu Lys Arg Leu Lys Thr Lys Ala Val Arg Met Ile Ala Ile Val
225                 230                 235                 240
```

```
Leu Ala Ile Phe Leu Val Cys Phe Val Pro Tyr His Val Asn Arg Ser
                245                 250                 255

Val Tyr Val Leu His Tyr Arg Ser His Gly Ala Ser Cys Ala Thr Gln
            260                 265                 270

Arg Ile Leu Ala Leu Ala Asn Arg Ile Thr Ser Cys Leu Thr Ser Leu
        275                 280                 285

Asn Gly Ala Leu Asp Pro Ile Met Tyr Phe Phe Val Ala Glu Lys Phe
    290                 295                 300

Arg His Ala Leu Cys Asn Leu Leu Cys Gly Lys Arg Leu Lys Gly Pro
305                 310                 315                 320

Pro Pro Ser Phe Glu Gly Lys Thr Asn Glu Ser Ser Leu Ser Ala Lys
                325                 330                 335

Ser Glu Leu


<210> 113
<211> 298
<212> PRT
<213> Homo sapiens

<400> 113
Phe Ile Leu Ala Leu Val Gly Asn Thr Leu Ala Leu Trp Leu Phe Ile
  1               5                  10                  15

Arg Asp His Lys Ser Gly Thr Pro Ala Asn Val Phe Leu Met His Leu
             20                  25                  30

Ala Val Ala Asp Leu Ser Cys Val Leu Val Leu Pro Thr Arg Leu Val
         35                  40                  45

Tyr His Phe Ser Gly Asn His Trp Pro Phe Gly Glu Ile Ala Cys Arg
     50                  55                  60

Leu Thr Gly Phe Leu Phe Tyr Leu Asn Met Tyr Ala Ser Ile Tyr Phe
 65                  70                  75                  80

Leu Thr Cys Ile Ser Ala Asp Arg Phe Leu Ala Ile Val His Pro Val
                 85                  90                  95

Lys Ser Leu Lys Leu Arg Arg Pro Leu Tyr Ala His Leu Ala Cys Ala
            100                 105                 110

Phe Leu Trp Val Val Val Ala Val Ala Met Ala Pro Leu Leu Val Ser
        115                 120                 125

Pro Gln Thr Val Gln Thr Asn His Thr Val Val Cys Leu Gln Leu Tyr
    130                 135                 140

Arg Glu Lys Ala Ser His His Ala Leu Val Ser Leu Ala Val Ala Phe
145                 150                 155                 160
```

```
Thr Phe Pro Phe Ile Thr Thr Val Thr Cys Tyr Leu Leu Ile Ile Arg
                165                 170                 175

Ser Leu Arg Gln Gly Leu Arg Val Glu Lys Arg Leu Lys Thr Lys Ala
            180                 185                 190

Val Arg Met Ile Ala Ile Val Leu Ala Ile Phe Leu Val Cys Phe Val
        195                 200                 205

Pro Tyr His Val Asn Arg Ser Val Tyr Val Leu His Tyr Arg Ser His
    210                 215                 220

Gly Ala Ser Cys Ala Thr Gln Arg Ile Leu Ala Leu Ala Asn Arg Ile
225                 230                 235                 240

Thr Ser Cys Leu Thr Ser Leu Asn Gly Ala Leu Asp Pro Ile Met Tyr
                245                 250                 255

Phe Phe Val Ala Glu Lys Phe Arg His Ala Leu Cys Asn Leu Leu Cys
            260                 265                 270

Gly Lys Arg Leu Lys Gly Pro Pro Pro Ser Phe Glu Gly Lys Thr Asn
        275                 280                 285

Glu Ser Ser Leu Ser Ala Lys Ser Glu Leu
    290                 295
```

<210> 114
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 114
gcaatggggc tcaatacgtc tg 22

<210> 115
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 115
aatgtcatgc tctagagtga ggcaga 26

<210> 116
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 116
acatggagat aaagaactac agcagca 27

<210> 117
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 117
tgttcctttt accggtaaat tctgtcc 27

<210> 118
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 118
gcccttttaga taagtcgtcc aa 22

<210> 119
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 119
agctctgtcc actttgactg ctcaca 26

<210> 120
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artifical Sequence: Primer/Probe

<400> 120
catggtccaa agaacaaaag aa 22

<210> 121
<211> 22
<212> DNA
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